Mathematics for Data and Financial Literacy Honors (#1200388) 2022 - And Beyond (current)

Course Standards

Name	Description
MA.912.AR.1.1:	Identify and interpret parts of an equation or expression that represent a quantity in terms of a mathematical or real-world context, including viewing one or more of its parts as a single entity. **Clarifications:** *Clarification 1:* Parts of an expression include factors, terms, constants, coefficients and variables. *Clarification 2:* Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.1.2:	Rearrange equations or formulas to isolate a quantity of interest. **Clarifications:** *Clarification 1*: Instruction includes using formulas for temperature, perimeter, area and volume; using equations for linear (standard, slope-intercept and point-slope forms) and quadratic (standard, factored and vertex forms) functions. *Clarification 2*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.2.5:	Solve and graph mathematical and real-world problems that are modeled with linear functions. Interpret key features and determine constraints in terms of the context. **Clarifications:** *Clarification 1*: Key features are limited to domain, range, intercepts and rate of change. *Clarification 2*: Instruction includes the use of standard form, slope-intercept form and point-slope form. *Clarification 3*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation. *Clarification 4*: Within the Algebra 1 course, notations for domain, range and constraints are limited to inequality and set-builder. *Clarification 5*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.3.8:	Solve and graph mathematical and real-world problems that are modeled with quadratic functions. Interpret key features and determine constraints in terms of the context. **Clarifications:** *Clarification 1*: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior; vertex; and symmetry. *Clarification 2*: Instruction includes the use of standard form, factored form and vertex form. *Clarification 3*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation. *Clarification 4*: Within the Algebra 1 course, notations for domain, range and constraints are limited to inequality and set-builder.
MA.912.AR.5.7:	Solve and graph mathematical and real-world problems that are modeled with exponential functions. Interpret key features and determine constraints in terms of the context. **Clarifications:** *Clarification 1*: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; constant percent rate of change; end behavior and asymptotes. *Clarification 2*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation. *Clarification 3*: Instruction includes understanding that when the logarithm of the dependent variable is taken and graphed, the exponential function will be transformed into a linear function. *Clarification 4*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.9.10:	Solve and graph mathematical and real-world problems that are modeled with piecewise functions. Interpret key features and determine constraints in terms of the context. **Clarifications:** *Clarification 1*: Key features are limited to domain, range, intercepts, asymptotes and end behavior. *Clarification 2*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation.
MA.912.AR.10.1:	Given a mathematical or real-world context, write and solve problems involving arithmetic sequences.
MA.912.AR.10.2:	Given a mathematical or real-world context, write and solve problems involving geometric sequences.
MA.912.DP.1.2:	Interpret data distributions represented in various ways. State whether the data is numerical or categorical, whether it is univariate or bivariate and interpret the different components and quantities in the display. **Clarifications:** *Clarification 1*: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.

MA.912.DP.2.4:	Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. Use the model to solve real-world problems in terms of the context of the data. **Clarifications:** *Clarification 1*: Instruction includes fitting a linear function both informally and formally with the use of technology. *Clarification 2*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.
MA.912.DP.2.8:	Fit a quadratic function to bivariate numerical data that suggests a quadratic association and interpret any intercepts or the vertex of the model. Use the model to solve real-world problems in terms of the context of the data. **Clarifications:** *Clarification 1*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.
MA.912.DP.2.9:	Fit an exponential function to bivariate numerical data that suggests an exponential association. Use the model to solve real-world problems in terms of the context of the data. **Clarifications:** *Clarification 1*: Instruction focuses on determining whether an exponential model is appropriate by taking the logarithm of the dependent variable using spreadsheets and other technology. *Clarification 2*: Instruction includes determining whether the transformed scatterplot has an appropriate line of best fit, and interpreting the y-intercept and slope of the line of best fit. *Clarification 3*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.
MA.912.DP.3.1:	Construct a two-way frequency table summarizing bivariate categorical data. Interpret joint and marginal frequencies and determine possible associations in terms of a real-world context.
MA.912.DP.3.2:	Given marginal and conditional relative frequencies, construct a two-way relative frequency table summarizing categorical bivariate data. **Clarifications:** *Clarification 1:* Construction includes cases where not all frequencies are given but enough are provided to be able to construct a two-way relative frequency table. *Clarification 2:* Instruction includes the use of a tree diagram when calculating relative frequencies to construct tables.
MA.912.DP.3.3:	Given a two-way relative frequency table or segmented bar graph summarizing categorical bivariate data, interpret joint, marginal and conditional relative frequencies in terms of a real-world context. **Clarifications:** *Clarification 1:* Instruction includes problems involving false positive and false negatives.
MA.912.DP.3.4:	Given a relative frequency table, construct and interpret a segmented bar graph.
MA.912.DP.5.11:	Evaluate reports based on data from diverse media, print and digital resources by interpreting graphs and tables; evaluating data-based arguments; determining whether a valid sampling method was used; or interpreting provided statistics. **Clarifications:** *Clarification 1*: Instruction includes determining whether or not data displays could be misleading.
MA.912.F.1.2:	Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output. **Clarifications:** *Clarification 1*: Problems include simple functions in two-variables, such as f(x,y)=3x-2y. *Clarification 2*: Within the Algebra 1 course, functions are limited to one-variable such as f(x)=3x.
MA.912.F.3.2:	Given a mathematical or real-world context, combine two or more functions, limited to linear, quadratic, exponential and polynomial, using arithmetic operations. When appropriate, include domain restrictions for the new function. **Clarifications:** *Clarification 1*: Instruction includes representing domain restrictions with inequality notation, interval notation or set-builder notation. *Clarification 2*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.FL.1.1:	Extend previous knowledge of operations of fractions, percentages and decimals to solve real-world problems involving money and business. **Clarifications:** *Clarification 1*: Problems include discounts, markups, simple interest, tax, tips, fees, percent increase, percent decrease and percent error.
MA.912.FL.1.2:	Extend previous knowledge of ratios and proportional relationships to solve real-world problems involving money and business.
MA.912.FL.1.3:	Solve real-world problems involving weighted averages using spreadsheets and other technology.
MA.912.FL.2.1:	Given assets and liabilities, calculate net worth using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes net worth for a business and for an individual. *Clarification 2*: Instruction includes understanding the difference between a capital asset and a liquid asset. *Clarification 3*: Instruction includes displaying net worth over time in a table or graph.
MA.912.FL.2.2:	Solve real-world problems involving profits, costs and revenues using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes the connection to data. *Clarification 2*: Instruction includes displaying profits and costs over time in a table or graph and using the graph to predict profits. *Clarification 3*: Problems include maximizing profits, maximizing revenues and minimizing costs.
	Explain how consumer price index (CPI), gross domestic product (GDP), stock indices, unemployment rate and trade deficit are calculated. Interpret their value in terms of the context.

MA.912.FL.2.3:	**Clarifications:** *Clarification 1*: Instruction includes the understanding that quantities are based on data and may include measurement error.
MA.912.FL.2.4:	Given current exchange rates, convert between currencies. Solve real-world problems involving exchange rates. **Clarifications:** *Clarification 1*: Instruction includes taking into account various fees, such as conversion fee, foreign transaction fee and dynamic concurrency conversion fee.
MA.912.FL.2.5:	Develop budgets that fit within various incomes using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes budgets for a business and for an individual. *Clarification 2*: Instruction includes taking into account various cash management strategies, such as checking and savings accounts, and how inflation may affect these strategies.
MA.912.FL.2.6:	Given a real-world scenario, complete and calculate federal income tax using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes understanding the difference between standardized deductions and itemized deductions. *Clarification 2*: Instruction includes the connection to piecewise linear functions with slopes relating to the marginal tax rates.
MA.912.FL.3.1:	Compare simple, compound and continuously compounded interest over time. **Clarifications:** *Clarification 1*: Instruction includes taking into consideration the annual percentage rate (APR) when comparing simple and compound interest.
MA.912.FL.3.2:	Solve real-world problems involving simple, compound and continuously compounded interest. **Clarifications:** *Clarification 1*: Within the Algebra 1 course, interest is limited to simple and compound.
MA.912.FL.3.3:	Solve real-world problems involving present value and future value of money
MA.912.FL.3.5:	Compare the advantages and disadvantages of using cash versus personal financing options. **Clarifications:** *Clarification 1*: Instruction includes advantages and disadvantages for a business and for an individual. *Clarification 2*: Personal financing options include debit cards, credit cards, installment plans and loans.
MA.912.FL.3.6:	Calculate the finance charges and total amount due on a bill using various forms of credit using estimation, spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes how annual percentage rate (APR) and periodic rate are calculated per month and the connection between the two percentages.
MA.912.FL.3.7:	Compare the advantages and disadvantages of different types of student loans by manipulating a variety of variables and calculating the total cost using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes students researching the latest information on different student loan options. *Clarification 2*: Instruction includes comparing subsidized (Stafford), unsubsidized, direct unsubsidized and PLUS loans. *Clarification 3*: Instruction includes considering different repayment plans, including deferred payments and forbearance. *Clarification 4*: Instruction includes how interest on student loans may affect one's income taxes.
MA.912.FL.3.8:	Calculate using spreadsheets and other technology the total cost of purchasing consumer durables over time given different monthly payments, down payments, financing options and fees. **Clarifications:** *Clarification 1*: Instruction includes how interest on loans may affect one's income taxes.
MA.912.FL.3.9:	Compare the advantages and disadvantages of different types of mortgage loans by manipulating a variety of variables and calculating fees and total cost using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes understanding various considerations that qualify a buyer for a loan, such as Debt-to-Income ratio. *Clarification 2*: Fees include discount prices, origination fee, maximum brokerage fee on a net or gross loan, documentary stamps and prorated expenses. *Clarification 3*: Instruction includes a cost comparison between a higher interest rate and fewer mortgage points versus a lower interest rate and more mortgage points. *Clarification 4*: Instruction includes a cost comparison between the length of the mortgage loan, such as 30-year versus 15-year. Clarification 5: Instruction includes adjustable rate loans, tax implications and equity for mortgages.
MA.912.FL.3.10:	Analyze credit scores qualitatively. Explain how short-term and long-term purchases, including deferred payments, may increase or decrease credit scores. Explain how credit scores influence buying power. **Clarifications:** *Clarification 1*: Instruction includes how each of the following categories affects a credit score: past payment history, amount of debt, public records information, length of credit history and the number of recent credit inquiries. *Clarification 2*: Instruction includes how a credit score affects qualification and interest rate for a home mortgage.
MA.912.FL.3.11:	Given a real-world scenario, establish a plan to pay off debt. **Clarifications:** *Clarification 1*: Instruction includes the comparison of different plans to pay off the debt. *Clarification 2*: Instruction includes pay off plans for a business and for an individual.

MA.912.FL.4.1:	Calculate and compare various options, deductibles and fees for various types of insurance policies using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Insurances include medical, car, homeowners, life and rental car. *Clarification 2*: Instruction includes types of insurance for a business and for an individual.
MA.912.FL.4.2:	Compare the advantages and disadvantages for adding on a one-time warranty to a purchase using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Warranties include protection plans from stores, car warranty and home protection plans. *Clarification 2*: Instruction includes types of warranties for a business and for an individual. *Clarification 3*: Instruction includes taking into consideration the risk of utilizing or not utilizing a one-time warranty on one or multiple purchases.
MA.912.FL.4.3:	Compare the advantages and disadvantages of various retirement savings plans using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes weighing options based on salary and retirement plans from different potential employers. *Clarification 2*: Instruction includes understanding the need to build one's own retirement plan when starting a business.
MA.912.FL.4.4:	Collect, organize and interpret data to determine an effective retirement savings plan to meet personal financial goals using spreadsheets and other technology. **Clarifications:** *Clarification 1*: Instruction includes students researching the latest information on different retirement options. *Clarification 2*: Instruction includes the understanding of the relationship between salaries and retirement plans. *Clarification 3*: Instruction includes retirement plans from the perspective of a business and of an individual. *Clarification 4*: Instruction includes the comparison of different types of retirement plans, including IRAs, pensions and annuities.
MA.912.FL.4.5:	Compare different ways that portfolios can be diversified in investments. **Clarifications:** *Clarification 1*: Instruction includes diversifying a portfolio with different types of stock and diversifying a portfolio by including both stocks and bonds.
MA.912.FL.4.6:	Simulate the purchase of a stock portfolio with a set amount of money, and evaluate its worth over time considering gains, losses and selling, taking into account any associated fees.
MA.912.NSO.1.1:	Extend previous understanding of the Laws of Exponents to include rational exponents. Apply the Laws of Exponents to evaluate numerical expressions and generate equivalent numerical expressions involving rational exponents. **Clarifications:** *Clarification 1:* Instruction includes the use of technology when appropriate. *Clarification 2:* Refer to the K-12 Formulas (Appendix E) for the Laws of Exponents. *Clarification 3:* Instruction includes converting between expressions involving rational exponents and expressions involving radicals. *Clarification 4:*Within the Mathematics for Data and Financial Literacy course, it is not the expectation to generate equivalent numerical expressions.
MA.912.NSO.1.2:	Generate equivalent algebraic expressions using the properties of exponents.
MA.912.NSO.1.6:	Given a numerical logarithmic expression, evaluate and generate equivalent numerical expressions using the properties of logarithms or exponents. **Clarifications:** *Clarification 1*: Within the Mathematics for Data and Financial Literacy Honors course, problem types focus on money and business.
MA.912.NSO.1.7:	Given an algebraic logarithmic expression, generate an equivalent algebraic expression using the properties of logarithms or exponents. **Clarifications:** *Clarification 1*: Within the Mathematics for Data and Financial Literacy Honors course, problem types focus on money and business.
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others: • Cultivate a community of growth mindset learners. • Foster perseverance in students by choosing tasks that are challenging. • Develop students' ability to analyze and problem solve. • Recognize students' effort when solving challenging problems.
MA.K12.MTR.2.1:	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: • Build understanding through modeling and using manipulatives. • Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations. • Progress from modeling problems with objects and drawings to using algorithms and equations. • Express connections between concepts and representations. • Choose a representation based on the given context or purpose. **Clarifications:** Teachers who encourage students to demonstrate understanding by representing problems in multiple ways:

- Help students make connections between concepts and representations.
- Provide opportunities for students to use manipulatives when investigating concepts.
- Guide students from concrete to pictorial to abstract representations as understanding progresses.
- Show students that various representations can have different purposes and can be useful in different situations.

MA.K12.MTR.3.1:

Complete tasks with mathematical fluency.
Mathematicians who complete tasks with mathematical fluency:

- Select efficient and appropriate methods for solving problems within the given context.
- Maintain flexibility and accuracy while performing procedures and mental calculations.
- Complete tasks accurately and with confidence.
- Adapt procedures to apply them to a new context.
- Use feedback to improve efficiency when performing calculations.

Clarifications:
Teachers who encourage students to complete tasks with mathematical fluency:

- Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately.
- Offer multiple opportunities for students to practice efficient and generalizable methods.
- Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.

MA.K12.MTR.4.1:

Engage in discussions that reflect on the mathematical thinking of self and others.
Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:

- Communicate mathematical ideas, vocabulary and methods effectively.
- Analyze the mathematical thinking of others.
- Compare the efficiency of a method to those expressed by others.
- Recognize errors and suggest how to correctly solve the task.
- Justify results by explaining methods and processes.
- Construct possible arguments based on evidence.

Clarifications:
Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others:

- Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning.
- Create opportunities for students to discuss their thinking with peers.
- Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods.
- Develop students' ability to justify methods and compare their responses to the responses of their peers.

MA.K12.MTR.5.1:

Use patterns and structure to help understand and connect mathematical concepts.
Mathematicians who use patterns and structure to help understand and connect mathematical concepts:

- Focus on relevant details within a problem.
- Create plans and procedures to logically order events, steps or ideas to solve problems.
- Decompose a complex problem into manageable parts.
- Relate previously learned concepts to new concepts.
- Look for similarities among problems.
- Connect solutions of problems to more complicated large-scale situations.

Clarifications:
Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts:

- Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts.
- Support students to develop generalizations based on the similarities found among problems.
- Provide opportunities for students to create plans and procedures to solve problems.
- Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.

MA.K12.MTR.6.1:

Assess the reasonableness of solutions.
Mathematicians who assess the reasonableness of solutions:

- Estimate to discover possible solutions.
- Use benchmark quantities to determine if a solution makes sense.
- Check calculations when solving problems.
- Verify possible solutions by explaining the methods used.
- Evaluate results based on the given context.

Clarifications:
Teachers who encourage students to assess the reasonableness of solutions:

- Have students estimate or predict solutions prior to solving.
- Prompt students to continually ask, "Does this solution make sense? How do you know?"
- Reinforce that students check their work as they progress within and after a task.
- Strengthen students' ability to verify solutions through justifications.

MA.K12.MTR.7.1:

Apply mathematics to real-world contexts.
Mathematicians who apply mathematics to real-world contexts:

- Connect mathematical concepts to everyday experiences.
- Use models and methods to understand, represent and solve problems.
- Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.

Clarifications:
Teachers who encourage students to apply mathematics to real-world contexts:

- Provide opportunities for students to create models, both concrete and abstract, and perform investigations.

	• Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELA.K12.EE.1.1:	Cite evidence to explain and justify reasoning. **Clarifications:** K-1 Students include textual evidence in their oral communication with guidance and support from adults. The evidence can consist of details from the text without naming the text. During 1st grade, students learn how to incorporate the evidence in their writing. 2-3 Students include relevant textual evidence in their written and oral communication. Students should name the text when they refer to it. In 3rd grade, students should use a combination of direct and indirect citations. 4-5 Students continue with previous skills and reference comments made by speakers and peers. Students cite texts that they've directly quoted, paraphrased, or used for information. When writing, students will use the form of citation dictated by the instructor or the style guide referenced by the instructor. 6-8 Students continue with previous skills and use a style guide to create a proper citation. 9-12 Students continue with previous skills and should be aware of existing style guides and the ways in which they differ.
ELA.K12.EE.2.1:	Read and comprehend grade-level complex texts proficiently. **Clarifications:** See Text Complexity for grade-level complexity bands and a text complexity rubric.
ELA.K12.EE.3.1:	Make inferences to support comprehension. **Clarifications:** Students will make inferences before the words infer or inference are introduced. Kindergarten students will answer questions like "Why is the girl smiling?" or make predictions about what will happen based on the title page. Students will use the terms and apply them in 2nd grade and beyond.
ELA.K12.EE.4.1:	Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations. **Clarifications:** In kindergarten, students learn to listen to one another respectfully. In grades 1-2, students build upon these skills by justifying what they are thinking. For example: "I think _____ because _____." The collaborative conversations are becoming academic conversations. In grades 3-12, students engage in academic conversations discussing claims and justifying their reasoning, refining and applying skills. Students build on ideas, propel the conversation, and support claims and counterclaims with evidence.
ELA.K12.EE.5.1:	Use the accepted rules governing a specific format to create quality work. **Clarifications:** Students will incorporate skills learned into work products to produce quality work. For students to incorporate these skills appropriately, they must receive instruction. A 3rd grade student creating a poster board display must have instruction in how to effectively present information to do quality work.
ELA.K12.EE.6.1:	Use appropriate voice and tone when speaking or writing. **Clarifications:** In kindergarten and 1st grade, students learn the difference between formal and informal language. For example, the way we talk to our friends differs from the way we speak to adults. In 2nd grade and beyond, students practice appropriate social and academic language to discuss texts.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

General Course Information and Notes

VERSION DESCRIPTION

In Mathematics for Data and Financial Literacy Honors, instructional time will emphasize five areas: (1) extending knowledge of ratios, proportions and functions to data and financial contexts; (2) developing understanding of basic economic and accounting principles; (3) determining advantages and disadvantages of credit accounts and short- and long-term loans; (4) developing understanding of planning for the future through investments, insurance and retirement plans and (5) extending knowledge of data analysis to create and evaluate reports and to make predictions.

All clarifications stated, whether general or specific to Mathematics for Data and Financial Literacy Honors, are expectations for instruction of that benchmark.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

GENERAL NOTES

Honors and Accelerated Level Course Note: Accelerated courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Florida's Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards

This course includes Florida's B.E.S.T. ELA Expectations (EE) and Mathematical Thinking and Reasoning Standards (MTRs) for students. Florida educators should intentionally embed these standards within the content and their instruction as applicable. For guidance on the implementation of the EEs and MTRs, please visit cpalms.org/Standards/BEST_Standards.aspx and select the appropriate B.E.S.T. Standards package.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1200388

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Studies/Applications >

Abbreviated Title: MATH DATA & FIN LIT H

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Mid Yrs Prog Algebra 1 (#1200390) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1200390

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Algebra >

Abbreviated Title: IB MYP ALG 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Algebra 1

Educator Certifications

Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)

Equivalent Courses

1200310-Algebra 1 Equivalency start year: 2014
1200386-Pre-Advanced Placement Algebra 1 Equivalency start year: 2018

International Baccalaureate Mid Yrs Prog Algebra 2 (#1200395) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1200395

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Algebra >

Abbreviated Title: IB MYP ALG 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)

Intensive Mathematics (#1200400) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.912.A-APR.1.1:	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. **Clarifications:** **Algebra 1 - Fluency Recommendations** Fluency in adding, subtracting, and multiplying polynomials supports students throughout their work in algebra, as well as in their symbolic work with functions. Manipulation can be more mindful when it is fluent.
MAFS.912.A-APR.2.3:	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
MAFS.912.A-CED.1.1:	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. ★
MAFS.912.A-CED.1.2:	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★
MAFS.912.A-CED.1.3:	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* ★
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.A-REI.1.1:	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
MAFS.912.A-REI.2.3:	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
MAFS.912.A-REI.2.4:	Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.
MAFS.912.A-REI.3.5:	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
MAFS.912.A-REI.3.6:	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
MAFS.912.A-REI.4.10:	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
MAFS.912.A-REI.4.11:	Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. ★
MAFS.912.A-REI.4.12:	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
MAFS.912.A-SSE.1.1:	Interpret expressions that represent a quantity in terms of its context. ★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1+r)^n$ *as the product of P and a factor not depending on P.*
MAFS.912.A-SSE.1.2:	Use the structure of an expression to identify ways to rewrite it. *For example, see* $x^4 - y^4$ *as* $(x^2)^2 - (y^2)^2$*, thus recognizing it as a difference of squares that can be factored as* $(x^2 - y^2)(x^2 + y^2)$.
MAFS.912.A-SSE.2.3:	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15^t *can be rewritten as* $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
MAFS.912.F-BF.1.1:	Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*

MAFS.912.F-BF.2.3:	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
MAFS.912.F-IF.1.1:	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).
MAFS.912.F-IF.1.2:	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
MAFS.912.F-IF.1.3:	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.2.5:	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble engines in a factory, then the positive integers would be an appropriate domain for the function.* ★
MAFS.912.F-IF.2.6:	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. ★
MAFS.912.F-IF.3.8:	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*
MAFS.912.F-IF.3.9:	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*
MAFS.912.F-LE.1.1:	Distinguish between situations that can be modeled with linear functions and with exponential functions. ★ a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
MAFS.912.F-LE.1.2:	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). ★
MAFS.912.F-LE.1.3:	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. ★
MAFS.912.F-LE.2.5:	Interpret the parameters in a linear or exponential function in terms of a context. ★
MAFS.912.G-C.1.1:	Prove that all circles are similar.
MAFS.912.G-C.1.2:	Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
MAFS.912.G-C.1.3:	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
MAFS.912.G-C.2.5:	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
MAFS.912.G-CO.1.1:	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
MAFS.912.G-CO.1.2:	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
MAFS.912.G-CO.1.3:	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
MAFS.912.G-CO.1.4:	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
MAFS.912.G-CO.1.5:	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
MAFS.912.G-CO.2.6:	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
MAFS.912.G-CO.2.7:	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
MAFS.912.G-CO.2.8:	Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions.
MAFS.912.G-CO.3.9:	Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
MAFS.912.G-CO.3.10:	Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; triangle inequality theorem; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
MAFS.912.G-CO.3.11:	Prove theorems about parallelograms; use theorems about parallelograms to solve problems. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*
MAFS.912.G-CO.4.12:	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* **Clarifications:** **Geometry - Fluency Recommendations**

	Fluency with the use of construction tools, physical and computational, helps students draft a model of a geometric phenomenon and can lead to conjectures and proofs.
MAFS.912.G-CO.4.13:	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.
MAFS.912.G-GMD.1.1:	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-GMD.2.4:	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
MAFS.912.G-GPE.1.1:	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
MAFS.912.G-GPE.2.4:	Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.5:	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.6:	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
MAFS.912.G-GPE.2.7:	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★ **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-MG.1.1:	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.G-MG.1.3:	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). ★
MAFS.912.G-SRT.1.1:	Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
MAFS.912.G-SRT.1.2:	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
MAFS.912.G-SRT.1.3:	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
MAFS.912.G-SRT.2.4:	Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
MAFS.912.G-SRT.2.5:	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the triangle congruence and similarity criteria will help students throughout their investigations of triangles, quadrilaterals, circles, parallelism, and trigonometric ratios. These criteria are necessary tools in many geometric modeling tasks.
MAFS.912.G-SRT.3.6:	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
MAFS.912.G-SRT.3.7:	Explain and use the relationship between the sine and cosine of complementary angles.
MAFS.912.G-SRT.3.8:	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.2:	Define appropriate quantities for the purpose of descriptive modeling. ★ **Clarifications:** **Algebra 1 Content Notes:** Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-RN.1.1:	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define* $5^{1/3}$ *to be the cube root of 5 because we want* $(5^{1/3})^3 = 5^{(1/3)3}$ *to hold, so* $(5^{1/3})^3$ *must equal 5.*
MAFS.912.N-RN.1.2:	Rewrite expressions involving radicals and rational exponents using the properties of exponents.

MAFS.912.N-RN.2.3:	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.912.S-ID.3.7:	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. ★
MAFS.912.S-ID.3.8:	Compute (using technology) and interpret the correlation coefficient of a linear fit. ★
MAFS.912.S-ID.3.9:	Distinguish between correlation and causation. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.RL.1.3:	Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.
LAFS.910.RL.2.4:	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
LAFS.910.RL.3.7:	Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's Landscape with the Fall of Icarus).
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Intensive courses have been designed so that the teacher will select the appropriate standards when developing curricula tailored to meet the needs of individual students, taking into account their grade and instructional level. This course should not be used in place of a core mathematics course but is intended to provide intervention for students who require extra mathematics instruction.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1200400

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Remedial >

Abbreviated Title: INTENS MATH

Course Length: Multiple (M) - Course length can vary

Course Level: 1

Educator Certifications

Mathematics (Grades 6-12)

Mathematics for College Success (#1200410) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.6.EE.1.2:	Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.* b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.* c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.*
MAFS.7.EE.2.3:	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.* **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students solve multistep problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. This work is the culmination of many progressions of learning in arithmetic, problem solving and mathematical practices. **Examples of Opportunities for In-Depth Focus** This is a major capstone standard for arithmetic and its applications.
MAFS.7.EE.2.4:	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.* **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** In solving word problems leading to one-variable equations of the form px + q = r and p(x + q) = r, students solve the equations fluently. This will require fluency with rational number arithmetic (7.NS.1.1–1.3), as well as fluency to some extent with applying properties operations to rewrite linear expressions with rational coefficients (7.EE.1.1). **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard builds on the work that led to meeting 6.EE.2.7 and prepares students for the work that will lead to meeting 8.EE.3.7.
MAFS.7.NS.1.1:	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards**

	Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.NS.1.2:	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.RP.1.3:	Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
MAFS.8.EE.1.1:	Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.
MAFS.8.EE.1.4:	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
MAFS.8.EE.2.5:	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on grades 6–7 work with proportions and position themselves for grade 8 work with functions and the equation of a line.
MAFS.8.F.2.4:	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
MAFS.8.NS.1.1:	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
MAFS.8.NS.1.2:	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*
MAFS.912.A-APR.1.1:	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. **Clarifications:** **Algebra 1 - Fluency Recommendations** Fluency in adding, subtracting, and multiplying polynomials supports students throughout their work in algebra, as well as in their symbolic work with functions. Manipulation can be more mindful when it is fluent.
MAFS.912.A-APR.2.3:	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
MAFS.912.A-APR.3.4:	Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 – y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.
MAFS.912.A-APR.4.7:	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
MAFS.912.A-CED.1.1:	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. ★
MAFS.912.A-CED.1.2:	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★
MAFS.912.A-CED.1.3:	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* ★
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.A-REI.1.1:	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
MAFS.912.A-REI.1.2:	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

MAFS.912.A-REI.2.3:	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
MAFS.912.A-REI.2.4:	Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.
MAFS.912.A-REI.3.5:	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
MAFS.912.A-REI.3.6:	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
MAFS.912.A-REI.4.10:	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
MAFS.912.A-REI.4.11:	Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. ★
MAFS.912.A-SSE.1.1:	Interpret expressions that represent a quantity in terms of its context. ★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1+r)^n$ *as the product of P and a factor not depending on P.*
MAFS.912.A-SSE.1.2:	Use the structure of an expression to identify ways to rewrite it. *For example, see* $x^4 - y^4$ *as* $(x^2)^2 - (y^2)^2$*, thus recognizing it as a difference of squares that can be factored as* $(x^2 - y^2)(x^2 + y^2)$*.*
MAFS.912.A-SSE.2.3:	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15^t *can be rewritten as* $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
MAFS.912.F-BF.1.1:	Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*
MAFS.912.F-BF.2.3:	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
MAFS.912.F-IF.1.1:	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.2.5:	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble engines in a factory, then the positive integers would be an appropriate domain for the function.* ★
MAFS.912.F-IF.2.6:	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.F-IF.3.8:	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$*,* $y = (0.97)^t$*,* $y = (1.01)^{12t}$*,* $y = (1.2)^{t/10}$*, and classify them as representing exponential growth or decay.*
	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).

MAFS.912.G-GPE.2.5:	**Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.2:	Define appropriate quantities for the purpose of descriptive modeling. ★ **Clarifications:** **Algebra 1 Content Notes:** Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-RN.1.2:	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.912.S-ID.3.7:	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

This course is targeted for students who are not yet "college ready" in mathematics. This course incorporates the Florida Standards for Mathematical Practices as well as the following Florida Standards for Mathematical Content: Expressions and Equations, The Number System, Ratios and Proportional Relationships, Functions, Algebra, Geometry, Number and Quantity, Statistics and Probability, and the Florida Standards for High School Modeling. The standards align with the Mathematics Postsecondary Readiness Competencies deemed necessary for entry-level college courses.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1200410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Algebra >
Abbreviated Title: MATH COLL SUCCESS

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics for College Readiness (#1200700) 2015 - 2022 (current)

Course Standards

Name	Description
	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*
MAFS.7.EE.2.4:	**Clarifications:** **Fluency Expectations or Examples of Culminating Standards** In solving word problems leading to one-variable equations of the form px + q = r and p(x + q) = r, students solve the equations fluently. This will require fluency with rational number arithmetic (7.NS.1.1–1.3), as well as fluency to some extent with applying properties operations to rewrite linear expressions with rational coefficients (7.EE.1.1). **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard builds on the work that led to meeting 6.EE.2.7 and prepares students for the work that will lead to meeting 8.EE.3.7.
MAFS.7.NS.1.1:	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers.
	Clarifications: **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.NS.1.2:	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
	Clarifications: **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.8.EE.1.1:	Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.
MAFS.8.EE.1.4:	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

MAFS.8.EE.2.5:	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on grades 6–7 work with proportions and position themselves for grade 8 work with functions and the equation of a line.
MAFS.8.F.2.4:	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
MAFS.8.NS.1.1:	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
MAFS.8.NS.1.2:	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*
MAFS.912.A-APR.1.1:	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. **Clarifications:** **Algebra 1 - Fluency Recommendations** Fluency in adding, subtracting, and multiplying polynomials supports students throughout their work in algebra, as well as in their symbolic work with functions. Manipulation can be more mindful when it is fluent.
MAFS.912.A-APR.2.3:	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
MAFS.912.A-APR.3.4:	Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.
MAFS.912.A-APR.4.6:	Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
MAFS.912.A-APR.4.7:	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
MAFS.912.A-CED.1.1:	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. ★
MAFS.912.A-CED.1.2:	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★
MAFS.912.A-CED.1.3:	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* ★
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law $V = IR$ to highlight resistance R.* ★
MAFS.912.A-REI.1.1:	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
MAFS.912.A-REI.1.2:	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
MAFS.912.A-REI.2.3:	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
MAFS.912.A-REI.2.4:	Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.
MAFS.912.A-REI.3.5:	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
MAFS.912.A-REI.3.6:	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
MAFS.912.A-REI.4.10:	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
MAFS.912.A-REI.4.11:	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. ★
MAFS.912.A-SSE.1.1:	Interpret expressions that represent a quantity in terms of its context. ★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*
MAFS.912.A-SSE.1.2:	Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*
	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★

MAFS.912.A-SSE.2.3:	a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15^t *can be rewritten as* $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
MAFS.912.F-BF.1.1:	Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*
MAFS.912.F-BF.2.3:	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
MAFS.912.F-IF.1.1:	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.2.5:	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble engines in a factory, then the positive integers would be an appropriate domain for the function.* ★
MAFS.912.F-IF.2.6:	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.F-IF.3.8:	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*
MAFS.912.G-GPE.2.5:	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.6:	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
MAFS.912.G-GPE.2.7:	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★ **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.2:	Define appropriate quantities for the purpose of descriptive modeling. ★ **Clarifications:** **Algebra 1 Content Notes:** Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-RN.1.1:	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define* $5^{1/3}$ *to be the cube root of 5 because we want* $(5^{1/3})^3 = 5^{(1/3)3}$ *to hold, so* $(5^{1/3})^3$ *must equal 5.*
MAFS.912.N-RN.1.2:	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
MAFS.912.N-RN.2.3:	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.912.S-ID.3.7:	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Look for and make use of structure.

MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This course is targeted for students who are not yet "college ready" in mathematics or simply need some additional instruction in content to prepare them for success in college level mathematics. This course incorporates the Florida Standards for Mathematical Practices as well as the following Florida Standards for Mathematical Content: Expressions and Equations, The Number System, Functions, Algebra, Geometry, Number and Quantity, Statistics and Probability, and the Florida Standards for High School Modeling. The standards align with the Mathematics Postsecondary Readiness Competencies deemed necessary for entry-level college courses.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English Language Learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximize an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please clock on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf.

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1200700

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Algebra >

Abbreviated Title: MATH COLL READINESS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12,30,31

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Mathematics Transfer (#1200990) 2015 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 1200990

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Transfer and CTE Industry Certification Substitutions >

Abbreviated Title: MATH TRAN

Course Length: Not Applicable

Course Type: Transfer Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Computer Science Substitution for Mathematics (#1200997) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

Section 1007.2616(6)(a), F.S., authorizes the substitution of up to one (1) mathematics credit (MA) and one (1) equally rigorous science (EQ) credit toward high school graduation for a student receiving a passing score on an industry certification examination and using an eligible computer science course containing content related to the course for which it is substituting. A listing of eligible computer science courses for the current school year is posted at fldoe.org/core/fileparse.php/7746/urlt/1819CompSci.pdf.

The school district would determine which industry certification exams (passing scores) can yield course substitutions for mathematics and science. It is important to note that one qualifying industry certification attainment equates to one substitution credit. A student would need to earn two distinct industry certifications tied to college credit in order to earn the maximum two substitution credits (one for math, one for science). The eligible industry certifications that are tied to statewide college credit may be found at fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml.

Per statute, the substitution does not apply to Algebra 1, Geometry or higher-level mathematics courses; higher-level courses are Level 3 courses in the Florida Course Code Directory.

Students who receive a course substitution earn course credit counted toward high school graduation. A course substitution does not factor into a student's grade point average (GPA).

Please note that course substitutions may not meet State University System (SUS) admission requirements or state scholarship program requirements.

QUALIFICATIONS

not applicable

GENERAL INFORMATION

Course Number: 1200997

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Transfer and CTE Industry Certification Substitutions >

Abbreviated Title: COMP SCI SUB MATH

Course Length: Not Applicable

Course Type: Course Substitution

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Industry Certification Mathematics Substitution1 (#1200998) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

Section 1003.4282, F.S., authorizes the substitution of up to two (2) mathematics credits (MA) toward high school graduation for a student receiving a passing score on an industry certification examination. Only one substitution per industry certification attained is allowed.

The school district would determine which industry certification exams (passing scores) can yield course substitutions for mathematics. It is important to note that one qualifying industry certification attainment equates to one substitution credit. A student would need to earn two distinct industry certifications tied to college credit in order to earn the maximum two substitution credits in Mathematics. The eligible industry certifications that are tied to statewide college credit may be found at fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml.

Students who receive a course substitution earn course credit counted toward high school graduation. A course substitution does not factor into a student's grade point average (GPA).

GENERAL INFORMATION

Course Number: 1200998

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Transfer and CTE Industry Certification Substitutions >
Abbreviated Title: CTEIC MATH SUB 1
Course Length: Not Applicable

Course Type: Course Substitution

Course Status: Course Approved

Graduation Requirement: Mathematics

Industry Certification Mathematics Substitution 2 (#1200999) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

Course Substitutions

Section 1003.4282, F.S., authorizes the substitution of up to two (2) mathematics credits (MA) toward high school graduation for a student receiving a passing score on an industry certification examination. Only one substitution per industry certification attained is allowed.

The school district would determine which industry certification exams (passing scores) can yield course substitutions for mathematics. It is important to note that one qualifying industry certification attainment equates to one substitution credit. A student would need to earn two distinct industry certifications tied to college credit in order to earn the maximum two substitution credits in Mathematics. The eligible industry certifications that are tied to statewide college credit may be found at fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml.

Students who receive a course substitution earn course credit counted toward high school graduation. A course substitution does not factor into a student's grade point average (GPA).

GENERAL INFORMATION

Course Number: 1200999

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Transfer and CTE Industry Certification Substitutions >

Abbreviated Title: CTE/IC MATH SUB 2

Course Length: Not Applicable

Course Type: Course Substitution

Course Status: Course Approved

Graduation Requirement: Mathematics

Mathematical Analysis Honors (#1201300) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.912.A-APR.2.2:	Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).
MAFS.912.A-APR.2.3:	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
MAFS.912.A-APR.3.4:	Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 – y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.
MAFS.912.A-APR.3.5:	Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.
MAFS.912.A-APR.4.6:	Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.
MAFS.912.A-APR.4.7:	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
MAFS.912.A-REI.3.8:	Represent a system of linear equations as a single matrix equation in a vector variable.
MAFS.912.A-REI.3.9:	Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater).
MAFS.912.F-BF.1.1:	Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*
MAFS.912.F-BF.1.2:	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. ★
MAFS.912.F-BF.2.3:	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-CN.3.9:	Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.
MAFS.912.N-VM.3.6:	Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
MAFS.912.N-VM.3.7:	Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
MAFS.912.N-VM.3.8:	Add, subtract, and multiply matrices of appropriate dimensions.
MAFS.912.N-VM.3.9:	Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
MAFS.912.N-VM.3.10:	Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
MAFS.912.N-VM.3.12:	Work with 2 × 2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.
MAFS.912.S-CP.2.8:	Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model. ★
MAFS.912.S-CP.2.9:	Use permutations and combinations to compute probabilities of compound events and solve problems. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Reason abstractly and quantitatively.

MAFS.K12.MP.2.1:	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns,

LAFS.1112.WHST.1.1:	values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1201300

Number of Credits: Half credit (.5)

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Analysis >

Abbreviated Title: MATH ANALYSIS HON

Course Length: Semester (S)

Course Attributes:

- Honors

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Analysis of Functions Honors (#1201315) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.912.A-APR.2.2:	Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).
MAFS.912.A-APR.4.6:	Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.
MAFS.912.A-APR.4.7:	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
MAFS.912.F-BF.1.1:	Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*
MAFS.912.F-BF.2.4:	Find inverse functions. a. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. *For example, f(x) =2 x^3 or f(x) = (x+1)/(x–1) for x ≠ 1.* b. Verify by composition that one function is the inverse of another. c. Read values of an inverse function from a graph or a table, given that the function has an inverse. d. Produce an invertible function from a non-invertible function by restricting the domain.
MAFS.912.F-BF.2.5:	Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.F-IF.3.8:	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*
MAFS.912.F-LE.1.4:	For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology. ★
MAFS.912.F-TF.1.3:	Use special triangles to determine geometrically the values of sine, cosine, tangent for π/3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π–x, π+x, and 2π–x in terms of their values for x, where x is any real number.
MAFS.912.F-TF.1.4:	Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
MAFS.912.F-TF.2.5:	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. ★
MAFS.912.F-TF.2.6:	Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
MAFS.912.F-TF.2.7:	Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context. ★
MAFS.912.F-TF.3.8:	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.
MAFS.912.N-CN.3.9:	Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to

MAFS.K12.MP.2.1:	bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.

	c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1201315

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Analysis >

Abbreviated Title: ANALYSIS OF FUNC HON

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Attributes:
- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Mathematics: Analysis and Approaches 1 (#1201325) 2019 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1201325

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Analysis >

Abbreviated Title: IB MATH: ANLYS/APPR1

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Mathematics: Analysis and Approaches 2 (#1201330) 2019 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1201330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Analysis >

Abbreviated Title: IB MATH: ANLYS/APPR2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Mathematics: Analysis and Approaches 3 (#1201335) 2019 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1201335

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Analysis >

Abbreviated Title: IB MATH: ANLYS/APPR3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

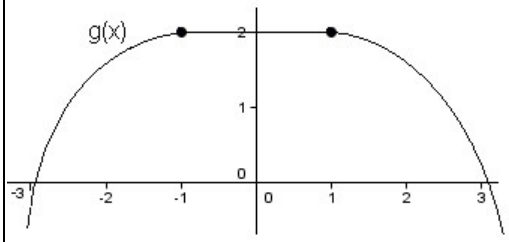
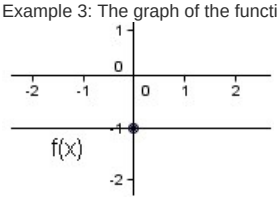
Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

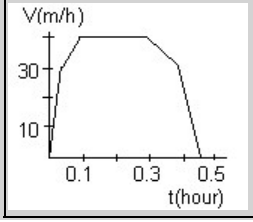
Calculus Honors (#1202300) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.912.C.1.6:	Find limits at infinity. **Clarifications:** Example 1: Find $\lim_{x\to\infty}\frac{x}{x-1}$ Example 2: Find $\lim_{x\to\infty}(2x^3-500x^2)$ Example 3: Find $\lim_{x\to-\infty}\frac{x^3-x+10}{x^4-8}$
MAFS.912.C.1.7:	Decide when a limit is infinite and use limits involving infinity to describe asymptotic behavior. **Clarifications:** Example 1: Find $\lim_{x\to0}\frac{x^2-3x}{x^2}$ Example 2: Where does the following function have asymptote(s)? Explain your answer. $f(x)=\frac{1}{x^2-7x+10}$
MAFS.912.C.1.8:	Find special limits such as $\lim_{x\to0}\frac{sinx}{x}$ **Clarifications:** Example: Use a diagram to show that $\lim_{x\to0}\frac{sinx}{x}$ is equal to 1.
MAFS.912.C.2.1:	Understand the concept of derivative geometrically, numerically, and analytically, and interpret the derivative as an instantaneous rate of change or as the slope of the tangent line. **Clarifications:** Example: Approximate the derivative of $f(x)=x^2$ at x=5 by calculating values of $\frac{f(x+h)-f(x)}{h}$ for values of h that are very close to zero. Use a diagram to explain what you are doing and what the result means.
MAFS.912.C.2.2:	State, understand, and apply the definition of derivative. **Clarifications:** Example 1 (related to the example given in C.2.1):Find $\lim_{h\to0}\frac{(5+h)^2-5^2}{h}$. What does the result tell you? Use the limit given above to determine the derivative function for f(x). In other words calculate f '(x) = $\lim_{h\to0}\frac{f(x+h)-f(x)}{h}$ for $f(x)=x^2$. Example 2: For the function g(x), shown on the graph, draw the graph of g'(x) by estimation. Explain how you arrived at your solution.  Example 3: The graph of the function f(x) is given below. Find a function g(x) such that the derivative of g(x) will be f(x). Explain your solution. 
MAFS.912.C.2.3:	Find the derivatives of functions, including algebraic, trigonometric, logarithmic, and exponential functions. **Clarifications:** Example 1: Find $\frac{dy}{dx}$ for the function $y=x^2$.

	Example 2: Find $\frac{dy}{dx}$ for the function y = ln(x).
MAFS.912.C.2.4:	Find the derivatives of sums, products, and quotients. **Clarifications:** Example 1: Find the derivative of the function f(x)= xcos(x). Example 2: Using the quotient rule for derivatives, show that the derivative of f(x) = tan(x) is f '(x) = $\sec^2(x)$.
MAFS.912.C.2.5:	Find the derivatives of composite functions using the Chain Rule. **Clarifications:** Example 1: Find $f'(x)$ for $f(x) = (x^2+2)^2$. Example 2: Find $f'(x)$ for $f(x) = \sin(\frac{1}{x})$.
MAFS.912.C.2.6:	Find the derivatives of implicitly-defined functions. **Clarifications:** Example: For the equation $xy - x^2y^2 = 5$, find $\frac{dy}{dx}$ at the point (2, 3).
MAFS.912.C.2.7:	Find derivatives of inverse functions. **Clarifications:** Example: Let $f(x) = 2x^3$ and $g(x) = f^{-1}(x)$ find $g'(2)$.
MAFS.912.C.2.8:	Find second derivatives and derivatives of higher order. **Clarifications:** Example: Let $f(x) = e^{5x}$. Find $f''(x)$ and $f'''(x)$.
MAFS.912.C.2.9:	Find derivatives using logarithmic differentiation. **Clarifications:** Example 1: Find $\frac{dy}{dx}$ for the following equation: $y = \sqrt{(x+3)^3(x-7)}$. Example 2: Find the derivative of $f(x) = (3x^2+5)^x$.
MAFS.912.C.2.10:	Understand and use the relationship between differentiability and continuity. **Clarifications:** Example 1: Let f(x)=1/x. Is f(x) continuous at x = 0? Is f(x) differentiable at x = 0? Explain your answers. Example 2: Is f(x) = IxI continuous at x=0? Is f(x) differentiable at x=0? Explain your answers.
MAFS.912.C.2.11:	Understand and apply the Mean Value Theorem. **Clarifications:** Example 1: Let $f(x) = \sqrt{x}$. On the interval [1, 9], find the value of c such that $\frac{f(9)-f(1)}{9-1} = f'(c)$. Example 2: At a car race, two cars join the race at the same point at the same time. They finish the race in a tie. Prove that some time during the race, the two cars had exactly the same speed. (Hint: Define f(t), g(t), and h(t), where f(t) is the distance that car 1 has traveled at time t, g(t) is the distance that car 2 has travelled at time t, and h(t) = f(t) - g(t).)
MAFS.912.C.3.1:	Find the slope of a curve at a point, including points at which there are vertical tangent lines and no tangent lines. **Clarifications:** Example 1: Find the slope of the line tangent to the graph of the equation $y = x^3$ at the point (2, 8). Example 2: Find the slope of the line tangent to the graph of the function $f(x) = \sqrt[3]{(1-x)}$ at x=1. Explain your answer. Example 3: Find the slope of the line tangent to the graph of the function $f(x) = \lvert x^3 - 8 \rvert$ at x=2. Explain your answer.
MAFS.912.C.3.2:	Find an equation for the tangent line to a curve at a point and a local linear approximation. **Clarifications:** Example 1: Find an equation of the line tangent to the graph of the equation $y = x^3$ at the point (2, 8). Example 2: Use a local linear approximation to estimate the derivative of $f(x) = x^x$ at x=2.
MAFS.912.C.3.3:	Decide where functions are decreasing and increasing. Understand the relationship between the increasing and decreasing behavior of *f* and the sign of *f'*. **Clarifications:** Example 1: For what values of x, is the function $f(x) = \frac{x}{x^2+1}$ decreasing? Example 2: The weight of a new infant baby during the first two months can be modeled by the following function: $w = \frac{1}{4}t^3 + \frac{5}{2}t^2 - \frac{19}{6}t + 8$, w represents weight in pounds, and t represents time in months. When is the infant gaining weight or losing weight during the first two months? Explain your answer.

MAFS.912.C.3.4:	Find local and absolute maximum and minimum points. **Clarifications:** Example 1: For the graph of the function $f(x) = x^3 - 3x$, find the local maximum and local minimum points of f(x) on [-2, 3].
MAFS.912.C.3.5:	Find points of inflection of functions. Understand the relationship between the concavity of f and the sign of f". Understand points of inflection as places where concavity changes. **Clarifications:** Example: For the graph of the function $f(x) = x^3 - 3x$, find the points of inflection of f(x) and determine where f(x) is concave upward and concave downward.
MAFS.912.C.3.6:	Use first and second derivatives to help sketch graphs. Compare the corresponding characteristics of the graphs of f, f', and f". **Clarifications:** Example: Use information from the first and second derivatives to sketch the graph of $f(x) = x^4 + 3x^2 - 2x + 1$.
MAFS.912.C.3.7:	Use implicit differentiation to find the derivative of an inverse function. **Clarifications:** Example: Let $f(x) = 2x^3$ and $g(x) = f^{-1}(x)$ Find g'(x) using implicit differentiation.
MAFS.912.C.3.8:	Solve optimization problems. **Clarifications:** Example 1: You want to enclose a rectangular field with an area of $5,000m^2$. Find the shortest length of fencing you can use. Example 2: The sum of the perimeters of an equilateral triangle and a square is 20. Find the dimensions of each that will produce the least area.
MAFS.912.C.3.9:	Find average and instantaneous rates of change. Understand the instantaneous rate of change as the limit of the average rate of change. Interpret a derivative as a rate of change in applications, including velocity, speed, and acceleration. **Clarifications:** Example: The vertical distance traveled by an object within the earth's gravitational field (and neglecting air resistance) is given by the equation $x(t) = \frac{1}{2}gt^2 + v_0t + x_0$, where g is the force on the object due to earth's gravity, Vo is the initial velocity, *X*o is the initial height above the ground, t is the time in seconds, and down is the negative vertical direction. Determine the instantaneous speed and the average speed for an object, initially at rest, 3 seconds after it is dropped from a 100m tall cliff. What about 5 seconds after?. Use $g = -10\frac{m}{s^2}$.
MAFS.912.C.3.10:	Find the velocity and acceleration of a particle moving in a straight line. **Clarifications:** Example: A bead on a wire moves so that, after t seconds, its distance s cm from the midpoint of the wire is given by $s = 5sin(t - \pi/4)$. Find its maximum velocity and where along the wire this occurs.
MAFS.912.C.3.11:	Model rates of change, including related rates problems. **Clarifications:** Example: One boat is heading due south at 10 mph. Another boat is heading due west at 15 mph. Both boats are heading toward the same point. If the boats maintain their speeds and directions, they will meet in two hours. Find the rate (in miles per hour) that the distance between them is decreasing exactly one hour before they meet.
MAFS.912.C.4.1:	Use rectangle approximations to find approximate values of integrals. **Clarifications:** Example: Find an approximate value for $\int_0^3 x^2 dx$ using 6 rectangles of equal width under the graph of $f(x) = x^2$ between x=0 and x=3. How did you form your rectangles? Compute this approximation three times using at least three different methods to form the rectangles.
MAFS.912.C.4.2:	Calculate the values of Riemann Sums over equal subdivisions using left, right, and midpoint evaluation points. **Clarifications:** Example 1: Find the value of the Riemann Sum over the interval [0, 1] using 6 subintervals of equal width for $f(x) = e^x$ evaluated at the midpoint of each subinterval. Example 2: Estimate $\int_0^{\pi} \sin x \, dx$ using a Riemann midpoint sum with 4 subintervals.
MAFS.912.C.4.3:	Interpret a definite integral as a limit of Riemann sums. **Clarifications:** Example: Find the values of the Riemann sums over the interval [0, 1] using 12 and 24 subintervals of equal width for $f(x) = e^x$ evaluated at the midpoint of each subinterval. Write an expression for the Riemann sums using n intervals of equal width. Find the limit of this Riemann Sums as n goes to infinity.
MAFS.912.C.4.4:	Interpret a definite integral of the rate of change of a quantity over an interval as the change of the quantity over the interval. That is, $\int_a^b f'(x)dx = f(b) - f(a)$ (Fundamental Theorem of Calculus). **Clarifications:** Example: Explain why $\int_4^5 2x dx = 5^2 - 4^2$.

MAFS.912.C.4.5:	Use the Fundamental Theorem of Calculus to evaluate definite and indefinite integrals and to represent particular antiderivatives. Perform analytical and graphical analysis of functions so defined. **Clarifications:** Example 1: Using antiderivatives, find $\int_0^3 x^2 dx$ Example 2: Evaluate $\int_1^5 e^x dx$ Example 3: Find $\int \sqrt{x} dx$
MAFS.912.C.4.6:	Use these properties of definite integrals: • $\int_a^b [f(x) + g(x)]dx = \int_a^b f(x)dx + \int_a^b g(x)dx$ • $\int_a^b k \cdot f(x)dx = k \int_a^b f(x)dx$ • $\int_a^a f(x)dx = 0$ • $\int_a^b f(x)dx = -\int_b^a f(x)dx$ • $\int_a^b f(x)dx + \int_b^c f(x)dx = \int_a^c f(x)dx$ • If f(x) ≤ g(x) on [a, b], then $\int_a^b f(x)dx \le \int_a^b g(x)dx$ **Clarifications:** Example 1: Given $\int_0^3 f(x)dx = 9$ and $\int_{-3}^0 f(x)dx = -9$, find $\int_0^3 5f(x)dx$, $\int_{-3}^3 f(x)dx$, and $\int_0^3 [f(x)+2]dx$. Example 2: Evaluate $\int_0^{2\pi} (\sin x + \cos x)dx$
MAFS.912.C.4.7:	Use integration by substitution (or change of variable) to find values of integrals. **Clarifications:** Example: Find $\int x^2(x^3+1)^4 dx$
MAFS.912.C.4.8:	Use Riemann Sums, the Trapezoidal Rule, and technology to approximate definite integrals of functions represented algebraically, geometrically, and by tables of values. **Clarifications:** Example 1: Use the Trapezoidal Rule with 6 subintervals over [0, 3] for $f(x) = x^2$ to approximate the value of $\int_0^3 x^2 dx$. Example 2: Find an approximation to $\int_{-3}^0 \sqrt{9 - x^2} dx$
MAFS.912.C.5.1:	Find specific antiderivatives using initial conditions, including finding velocity functions from acceleration functions, finding position functions from velocity functions, and solving applications related to motion along a line. **Clarifications:** Example 1: A bead on a wire moves so that its velocity (in cm/s), after t seconds, is given by v(t) = 3 cos 3t. Given that it starts 2 cm to the left of the midpoint of the wire, find its position after 5 seconds. Example 2: Carla recorded their car's speed during their trip from school to home. She plotted the data and obtained the following graph. What might the graph for distance versus time look like for their trip to home? Label the axes of your graph and explain why you think it might be a correct representation of the distance versus time for their trip. 
MAFS.912.C.5.5:	Use definite integrals to find the area between a curve and the x-axis or between two curves. **Clarifications:** Example: Find the area bounded by $y = \sqrt{x}$, y= 0, and x = 2.
	Use definite integrals to find the volume of a solid with known cross-sectional area, including solids of revolution. **Clarifications:**

MAFS.912.C.5.7:	Example 1: A cone with its vertex at the origin lies symmetrically along the x-axis. The base of the cone is at x = 5 and the base radius is 7. Use integration to find the volume of the cone. Example 2: What is the volume of the solid created when the area between the curves $f(x) = x$ and $g(x) = x^2$ for $0 \le x \le 1$ is revolved around the y-axis?
MAFS.912.C.5.8:	Apply integration to model, and solve problems in physical, biological, and social sciences. **Clarifications:** Example: During an acceleration trial, a test vehicle traveling in a straight line has a velocity given by the equation v(t)=sin t , where t is in seconds and velocity is in feet per second. Find the total distance traveled by the test car during the time interval from 0 seconds to 1.5 seconds.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see

	complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1202300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: CALCULUS HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Advanced Placement Calculus AB (#1202310) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 1202310

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: AP CALCULUS AB

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Advanced Placement Calculus BC (#1202320) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 1202320

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: AP CALCULUS BC

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

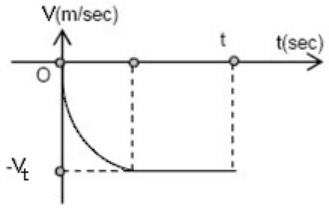
Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Pre-Calculus Honors (#1202340) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.912.A-APR.3.4:	Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.
MAFS.912.A-APR.3.5:	Know and apply the Binomial Theorem for the expansion of $(x+y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.
MAFS.912.A-APR.4.6:	Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.
MAFS.912.A-APR.4.7:	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
MAFS.912.C.1.1:	Understand the concept of limit and estimate limits from graphs and tables of values. **Clarifications:** Example 1: For $f(x)=\frac{x^2+2x-8}{x-2}$, estimate $\lim_{x\to 2}\frac{x^2+2x-8}{x-2}$ by calculating the function's values for x = 2.1, 2.01, 2.001 and for x = 1.9, 1.99, 1.999. Explain your answer. Example 2: A dog started to chase Kathy from 100 meters away. The dog runs fast so that every minute, the distance between Kathy and the dog is halved. Make a graph that shows the distance between Kathy and the dog in meters versus the time in minutes. Write a function to determine the distance between Kathy and the dog at any given time. Will the dog ever catch Kathy? Write a statement about the distance between Kathy and the dog as the time increases. Example 3: A skydiver free falls from an airplane. The following graph shows the velocity of the skydiver. The air resistance and the gravity are the two forces that affect the velocity of a falling object. Write a paragraph that explains the graph, including but not limited to how the velocity of the skydiver changes as the time increases. You might read about the concept of terminal velocity to make an accurate explanation of the graph. 
MAFS.912.C.1.2:	Find limits by substitution. **Clarifications:** Example 1: Find $\lim_{x\to 5}(2x+1)$ Example 2: Find $\lim_{x\to 7}(-3x^0)$ Example 3: Find $\lim_{x\to 0}\frac{e^{x^2}}{3x-4}$
MAFS.912.C.1.3:	Find limits of sums, differences, products, and quotients. **Clarifications:** Example: Find $\lim_{x\to\pi}(sinxcosx+tanx)$
MAFS.912.C.1.4:	Find limits of rational functions that are undefined at a point. **Clarifications:** Example 1: Find $\lim_{x\to 2}\frac{x^2+2x-8}{x-2}$ Example 2: The magnitude of the force between two positive charges, q1 and q2 can be described by the following function: $F(r)=k\frac{q_1q_2}{r^2}$, where *k* is a constant, called Coulomb's constant, and *r* is the distance between the two charges. Find $\lim_{r\to 0}F(r)$. Interpret the answer in the context of the force between the two charges.
MAFS.912.C.1.5:	Find one-sided limits. **Clarifications:** Example 1: Find $\lim_{x\to 4^-}-\sqrt{4-x}$

	Example 2: Find $\lim_{x\to 1^-} \frac{x^2-3x+2}{\lvert x-1\rvert}$
MAFS.912.C.1.9:	Understand continuity in terms of limits. **Clarifications:** Example 1: Show that f(x)=3x + 1 is continuous at x = 2 by finding $\lim_{x\to 2}(3x+1)$ and comparing it with f(2). Example 2: Given that the limg(x) as x approaches to 5 exists, is the statement "g(x) is continuous at x=5" necessarily true? Provide example functions to support your conclusion.
MAFS.912.C.1.10:	Decide if a function is continuous at a point. **Clarifications:** Example: Determine if the function $f(x)=\frac{x^2+2x-8}{x-2}$ can be made continuous by defining the function with a specific value at x=2.
MAFS.912.C.1.11:	Find the types of discontinuities of a function. **Clarifications:** Example: Suppose h(x) = $f(x)=\frac{x^2-5x+6}{x^2-4}$. Identify and categorize any discontinuities in h(x). Explain your answer.
MAFS.912.C.1.12:	Understand and use the Intermediate Value Theorem on a function over a closed interval. **Clarifications:** Example 1: Use the Intermediate Value Theorem to show that $g(x)=x^3+3x^2-9x-2$ has a zero between x = 0 and x = 3.
MAFS.912.C.1.13:	Understand and apply the Extreme Value Theorem: If f(x) is continuous over a closed interval, then f has a maximum and a minimum on the interval. **Clarifications:** Example: Use the Extreme Value Theorem to decide whether f(x)=tan(x) has a minimum and maximum on the interval $\left[\frac{-\pi}{4},\frac{\pi}{4}\right]$. What about on the interval $[-\pi,\pi]$? Explain your reasoning.
MAFS.912.F-BF.1.1:	Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*
MAFS.912.F-BF.2.4:	Find inverse functions. a. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. *For example, f(x) =2 x³ or f(x) = (x+1)/(x–1) for x ≠ 1.* b. Verify by composition that one function is the inverse of another. c. Read values of an inverse function from a graph or a table, given that the function has an inverse. d. Produce an invertible function from a non-invertible function by restricting the domain.
MAFS.912.F-TF.1.1:	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle; Convert between degrees and radians.
MAFS.912.F-TF.1.2:	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
MAFS.912.F-TF.1.3:	Use special triangles to determine geometrically the values of sine, cosine, tangent for π/3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π–x, π+x, and 2π–x in terms of their values for x, where x is any real number.
MAFS.912.F-TF.1.4:	Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
MAFS.912.F-TF.2.5:	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. ★
MAFS.912.F-TF.2.6:	Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
MAFS.912.F-TF.2.7:	Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context. ★
MAFS.912.F-TF.3.8:	Prove the Pythagorean identity $\sin^2(\theta)+\cos^2(\theta)=1$ and use it to calculate trigonometric ratios.
MAFS.912.F-TF.3.9:	Prove the addition and subtraction, half-angle, and double-angle formulas for sine, cosine, and tangent and use these formulas to solve problems.
MAFS.912.G-GPE.1.1:	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
MAFS.912.G-GPE.1.2:	Derive the equation of a parabola given a focus and directrix.
MAFS.912.G-GPE.1.3:	Derive the equations of ellipses and hyperbolas given the foci and directrices.
MAFS.912.G-SRT.3.8:	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★
MAFS.912.G-SRT.4.9:	Derive the formula A = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
MAFS.912.G-SRT.4.10:	Prove the Laws of Sines and Cosines and use them to solve problems.
MAFS.912.G-SRT.4.11:	Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).
MAFS.912.N-CN.1.3:	Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.
MAFS.912.N-CN.2.4:	Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
MAFS.912.N-CN.2.5:	Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-1+\sqrt{3}\,i)^3=8$ because $(-1+\sqrt{3}\,i)$ has modulus 2 and argument 120°.
MAFS.912.N-CN.3.9:	Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.
MAFS.912.N-VM.1.1:	Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., ***v***, **|*v*|**, **||*v*||**, ***v***).

MAFS.912.N-VM.1.2:	Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.N-VM.2.4:	Add and subtract vectors. a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes. b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum. c. Understand vector subtraction **v** − **w** as **v** + (−**w**), where −**w** is the additive inverse of **w**, with the same magnitude as **w** and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.
MAFS.912.N-VM.2.5:	Multiply a vector by a scalar. a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$. b. Compute the magnitude of a scalar multiple c**v** using ||c**v**|| = |c|v. Compute the direction of c**v** knowing that when |c|v ≠ 0, the direction of c**v** is either along **v** (for c > 0) or against **v** (for c < 0).
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
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LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support,

students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1202340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: PRE-CALCULUS HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12,30,31

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Cambridge AICE Mathematics 1 AS Level (#1202352) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1202352

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: AICE MATH 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Cambridge AICE Mathematics & Mechanics 1 AS Level (#1202354) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 1202354

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: AICE MATH&MECH 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Cambridge AICE Mathematics and Probability and Statistics 1 AS Level (#1202362) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 1202362

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Probablility and Statistics >

Abbreviated Title: AICE MA PR ST 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Cambridge AICE Mathematics and Probability and Statistics 2 A Level (#1202364) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 1202364

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Probablility and Statistics >

Abbreviated Title: AICE MA PR ST 2 AL

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Cambridge AICE Further Mathematics 1 AS Level (#1202365) 2019 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

GENERAL INFORMATION

Course Number: 1202365

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: AICE FURTHERMATH 1AS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Cambridge AICE Mathematics and Mechanics and Probability and Statistics 2 A Level (#1202366) 2014 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 1202366

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Probablility and Statistics >

Abbreviated Title: AICE MA ME PR ST 2 AL

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Cambridge AICE Further Mathematics 2 A Level (#1202370) 2019 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 1202370

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: AICE FURTHERMATH 2AL

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Cambridge Pre-AICE Additional Mathematics 3 IGCSE Level (#1202371) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 1202371

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: PRE-AICE ADD MTH3 IG

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Pre-Calculus (#1202375) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1202375

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >

Abbreviated Title: IB PRE-CALCULUS

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate MYP Pre-Calculus (#1202380) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1202380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Calculus >
Abbreviated Title: IB MYP PRE-CALCULUS
Course Length: Year (Y)
Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Course Status: Course Approved

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

M/J Intensive Mathematics (MC) (#1204000) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.6.EE.1.1:	Write and evaluate numerical expressions involving whole-number exponents.
MAFS.6.EE.1.2:	Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.* b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.* c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.*
MAFS.6.EE.1.3:	Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** By applying properties of operations to generate equivalent expressions, students use properties of operations that they are familiar with from previous grades' work with numbers — generalizing arithmetic in the process.
MAFS.6.EE.1.4:	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*
MAFS.6.EE.2.5:	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
MAFS.6.EE.2.6:	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
MAFS.6.EE.2.7:	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all non-negative rational numbers. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students write equations of the form x + p = q and px = q to solve real-world and mathematical problems, they draw on meanings of operations that they are familiar with from previous grades' work. They also begin to learn algebraic approaches to solving problems.[16] [16] For example, suppose Daniel went to visit his grandmother, who gave him $5.50. Then he bought a book costing $9.20 and had $2.30 left. To find how much money he had before visiting his grandmother, an algebraic approach leads to the equation x + 5.50 – 9.20 = 2.30. An arithmetic approach without using variables at all would be to begin with 2.30, then add 9.20, then subtract 5.50. This yields the desired answer, but students will eventually encounter problems in which arithmetic approaches are unrealistically difficult and algebraic approaches must be used.
MAFS.6.EE.2.8:	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.G.1.1:	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
MAFS.6.G.1.2:	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l\ w\ h$ and $V = B\ h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
MAFS.6.G.1.3:	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
MAFS.6.G.1.4:	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.
	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?* **Clarifications:**

MAFS.6.NS.1.1:	**Examples of Opportunities for In-Depth Focus** This is a culminating standard for extending multiplication and division to fractions. **Fluency Expectations or Examples of Culminating Standards** Students interpret and compute quotients of fractions and solve word problems involving division of fractions by fractions. This completes the extension of operations to fractions.
MAFS.6.NS.2.2:	Fluently divide multi-digit numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently divide multi-digit numbers using the standard algorithm. This is the culminating standard for several years' worth of work with division of whole numbers.
MAFS.6.NS.2.3:	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. This is the culminating standard for several years' worth of work relating to the domains of Number and Operations in Base Ten, Operations and Algebraic Thinking, and Number and Operations — Fractions.
MAFS.6.NS.2.4:	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).*
MAFS.6.NS.3.5:	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
MAFS.6.NS.3.6:	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite. b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
MAFS.6.NS.3.7:	Understand ordering and absolute value of rational numbers. a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret -3 > -7 as a statement that -3 is located to the right of -7 on a number line oriented from left to right.* b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write -3 ^{o}C > -7 ^{o}C to express the fact that -3 ^{o}C is warmer than -7 ^{o}C.* c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write |-30| = 30 to describe the size of the debt in dollars.* d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*
MAFS.6.NS.3.8:	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work with rational numbers in the coordinate plane to solve problems, they combine and consolidate elements from the other standards in this cluster.
MAFS.6.RP.1.1:	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
MAFS.6.RP.1.2:	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*
	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. b. Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*

MAFS.6.RP.1.3:	c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. e. Understand the concept of Pi as the ratio of the circumference of a circle to its diameter. ([1]See Table 2 Common Multiplication and Division Situations) **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they use a range of reasoning and representations to analyze proportional relationships.
MAFS.6.SP.1.1:	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
MAFS.6.SP.1.2:	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.EE.1.1:	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
MAFS.7.EE.1.2:	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*
MAFS.7.EE.2.3:	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.* **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students solve multistep problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. This work is the culmination of many progressions of learning in arithmetic, problem solving and mathematical practices. **Examples of Opportunities for In-Depth Focus** This is a major capstone standard for arithmetic and its applications.
MAFS.7.EE.2.4:	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.* **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** In solving word problems leading to one-variable equations of the form px + q = r and p(x + q) = r, students solve the equations fluently. This will require fluency with rational number arithmetic (7.NS.1.1–1.3), as well as fluency to some extent with applying properties operations to rewrite linear expressions with rational coefficients (7.EE.1.1). **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard builds on the work that led to meeting 6.EE.2.7 and prepares students for the work that will lead to meeting 8.EE.3.7.
MAFS.7.G.1.1:	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
MAFS.7.G.1.2:	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
MAFS.7.G.1.3:	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
MAFS.7.G.2.4:	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

MAFS.7.G.2.5:	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
MAFS.7.G.2.6:	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard draws together grades 3–6 work with geometric measurement.
MAFS.7.NS.1.1:	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.NS.1.2:	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.NS.1.3:	Solve real-world and mathematical problems involving the four operations with rational numbers. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard (which is closely connected to 7.NS.1.1 and 7.NS.1.2), they consolidate their skill and understanding of addition, subtraction, multiplication and division of rational numbers.
MAFS.7.RP.1.1:	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*
MAFS.7.RP.1.2:	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.* d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Students in grade 7 grow in their ability to recognize, represent, and analyze proportional relationships in various ways, including by using tables, graphs, and equations.

MAFS.7.RP.1.3:	Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
MAFS.7.SP.1.1:	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
MAFS.7.SP.1.2:	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
MAFS.7.SP.2.3:	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.7.SP.3.6:	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*
MAFS.7.SP.3.7:	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*
MAFS.7.SP.3.8:	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*
MAFS.8.EE.1.1:	Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.*
MAFS.8.EE.1.2:	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
MAFS.8.EE.1.3:	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.*
MAFS.8.EE.1.4:	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
MAFS.8.EE.2.5:	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on grades 6–7 work with proportions and position themselves for grade 8 work with functions and the equation of a line.
MAFS.8.EE.2.6:	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.
MAFS.8.EE.3.7:	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students have been working informally with one-variable linear equations since as early as kindergarten. This important line of development culminates in grade 8 with the solution of general one-variable linear equations, including cases with infinitely many solutions or no solutions as well as cases requiring algebraic manipulation using properties of operations. Coefficients and constants in these equations may be any rational

	numbers. **Examples of Opportunities for In-Depth Focus** This is a culminating standard for solving one-variable linear equations.
MAFS.8.EE.3.8:	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.* c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on what they know about two-variable linear equations, and they enlarge the varieties of real-world and mathematical problems they can solve.
MAFS.8.F.1.1:	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
MAFS.8.F.1.2:	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard repositions previous work with tables and graphs in the new context of input/output rules.
MAFS.8.F.1.3:	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*
MAFS.8.F.2.4:	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.1.1:	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.
MAFS.8.G.1.2:	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
MAFS.8.G.1.3:	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
MAFS.8.G.1.4:	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
MAFS.8.G.1.5:	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*
MAFS.8.G.2.6:	Explain a proof of the Pythagorean Theorem and its converse.
MAFS.8.G.2.7:	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The Pythagorean theorem is useful in practical problems, relates to grade-level work in irrational numbers and plays an important role mathematically in coordinate geometry in high school.
MAFS.8.G.2.8:	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
MAFS.8.NS.1.1:	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
MAFS.8.NS.1.2:	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then*

	between 1.4 and 1.5, and explain how to continue on to get better approximations.
MAFS.8.SP.1.1:	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
MAFS.8.SP.1.2:	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
MAFS.8.SP.1.3:	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later,

MAFS.K12.MP.7.1:	students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Intensive courses have been designed so that the teacher will select the appropriate standards when developing curricula tailored to meet the needs of individual students, taking into account their grade and instructional level. This course should not be used in place of a core mathematics course but is intended to provide intervention for students who require extra mathematics instruction.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1204000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** Remedial Mathematics >
Abbreviated Title: M/J INTENS MATH (MC)
Course Length: Multiple (M) - Course length can vary
Course Attributes:
- Class Size Core Required

Course Level: 1

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)
Middle Grades Integrated Curriculum (Middle Grades 5-9)

M/J Grade 6 Mathematics (#1205010) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.6.EE.1.1:	Write and evaluate numerical expressions involving whole-number exponents.
MAFS.6.EE.1.2:	Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.* b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.* c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.*
MAFS.6.EE.1.3:	Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** By applying properties of operations to generate equivalent expressions, students use properties of operations that they are familiar with from previous grades' work with numbers — generalizing arithmetic in the process.
MAFS.6.EE.1.4:	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*
MAFS.6.EE.2.5:	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
MAFS.6.EE.2.6:	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
MAFS.6.EE.2.7:	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all non-negative rational numbers. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students write equations of the form x + p = q and px = q to solve real-world and mathematical problems, they draw on meanings of operations that they are familiar with from previous grades' work. They also begin to learn algebraic approaches to solving problems.[16] [16] For example, suppose Daniel went to visit his grandmother, who gave him $5.50. Then he bought a book costing $9.20 and had $2.30 left. To find how much money he had before visiting his grandmother, an algebraic approach leads to the equation x + 5.50 – 9.20 = 2.30. An arithmetic approach without using variables at all would be to begin with 2.30, then add 9.20, then subtract 5.50. This yields the desired answer, but students will eventually encounter problems in which arithmetic approaches are unrealistically difficult and algebraic approaches must be used.
MAFS.6.EE.2.8:	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.G.1.1:	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
MAFS.6.G.1.2:	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l\ w\ h$ and $V = B\ h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
MAFS.6.G.1.3:	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
MAFS.6.G.1.4:	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.
	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?* **Clarifications:**

MAFS.6.NS.1.1:	**Examples of Opportunities for In-Depth Focus** This is a culminating standard for extending multiplication and division to fractions. **Fluency Expectations or Examples of Culminating Standards** Students interpret and compute quotients of fractions and solve word problems involving division of fractions by fractions. This completes the extension of operations to fractions.
MAFS.6.NS.2.2:	Fluently divide multi-digit numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently divide multi-digit numbers using the standard algorithm. This is the culminating standard for several years' worth of work with division of whole numbers.
MAFS.6.NS.2.3:	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. This is the culminating standard for several years' worth of work relating to the domains of Number and Operations in Base Ten, Operations and Algebraic Thinking, and Number and Operations — Fractions.
MAFS.6.NS.2.4:	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).*
MAFS.6.NS.3.5:	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
MAFS.6.NS.3.6:	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite. b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
MAFS.6.NS.3.7:	Understand ordering and absolute value of rational numbers. a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret -3 > -7 as a statement that -3 is located to the right of -7 on a number line oriented from left to right.* b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write -3 ^{o}C > -7 ^{o}C to express the fact that -3 ^{o}C is warmer than -7 ^{o}C.* c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write |-30| = 30 to describe the size of the debt in dollars.* d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*
MAFS.6.NS.3.8:	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work with rational numbers in the coordinate plane to solve problems, they combine and consolidate elements from the other standards in this cluster.
MAFS.6.RP.1.1:	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
MAFS.6.RP.1.2:	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*
	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. b. Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*

MAFS.6.RP.1.3:	c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. e. Understand the concept of Pi as the ratio of the circumference of a circle to its diameter. ([1]See Table 2 Common Multiplication and Division Situations) **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they use a range of reasoning and representations to analyze proportional relationships.
MAFS.6.SP.1.1:	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
MAFS.6.SP.1.2:	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify

	relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.6

In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

1. Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication and division with ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to

solve problems, and they connect ratios and fractions. Students solve a wide variety of problems involving ratios and rates.

2. Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.
3. Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are equivalent ratios, and they use equations (such as 3x = y) to describe relationships between quantities.
4. Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range or mean absolute deviation) can also be useful for summarizing data because two very different set of data can have the same mean and median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.

Students in Grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths. They prepare for work on scale drawings and constructions in Grade 7 by drawing polygons in the coordinate plane.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
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Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.6.RP.1 Understand ratio concepts and use ratio reasoning to solve problems.

MAFS.6.NS.1 Apply and extend previous understandings of multiplication and division to divide fractions.

MAFS.6.NS.3 Apply and extend previous understandings of numbers to the system of rational numbers.

MAFS.6.EE.1 Apply and extend previous understanding of arithmetic to algebraic expressions.

MAFS.6.EE.2 Reason about and solve one-step equations and inequalities.

MAFS.6.EE.3 Represent and analyze quantitative relationships between dependent and independent variables.

Supporting Clusters

MAFS.6.G.1 Solve real-world and mathematical problems involving area, surface area, and volume.

Additional Clusters

MAFS.6.NS.2 Compute fluently with multi-digit numbers and find common factors and multiples.

MAFS.6.SP.1 Develop understanding of statistical variability.

MAFS.6.SP.2 Summarize and describe distributions.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 1205010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:**

General Mathematics >

Abbreviated Title: M/J GRADE 6 MATH

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Mathematics (Elementary Grades 1-6)
Middle Grades Mathematics (Middle Grades 5-9)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Mathematics (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J Accelerated Mathematics Grade 6 (#1205020) 2020 - 2022

(current)

Course Standards

Name	Description
MAFS.6.EE.1.1:	Write and evaluate numerical expressions involving whole-number exponents.
MAFS.6.EE.1.2:	Write, read, and evaluate expressions in which letters stand for numbers. a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.* b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.* c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.*
MAFS.6.EE.1.3:	Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** By applying properties of operations to generate equivalent expressions, students use properties of operations that they are familiar with from previous grades' work with numbers — generalizing arithmetic in the process.
MAFS.6.EE.1.4:	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*
MAFS.6.EE.2.5:	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
MAFS.6.EE.2.6:	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
MAFS.6.EE.2.7:	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all non-negative rational numbers. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students write equations of the form x + p = q and px = q to solve real-world and mathematical problems, they draw on meanings of operations that they are familiar with from previous grades' work. They also begin to learn algebraic approaches to solving problems.[16] [16] For example, suppose Daniel went to visit his grandmother, who gave him $5.50. Then he bought a book costing $9.20 and had $2.30 left. To find how much money he had before visiting his grandmother, an algebraic approach leads to the equation x + 5.50 – 9.20 = 2.30. An arithmetic approach without using variables at all would be to begin with 2.30, then add 9.20, then subtract 5.50. This yields the desired answer, but students will eventually encounter problems in which arithmetic approaches are unrealistically difficult and algebraic approaches must be used.
MAFS.6.EE.2.8:	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.G.1.1:	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
MAFS.6.G.1.2:	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas *V = l w h* and *V = B h* to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
MAFS.6.G.1.3:	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
MAFS.6.G.1.4:	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.
	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) =*

	ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?
MAFS.6.NS.1.1:	**Clarifications:** **Examples of Opportunities for In-Depth Focus** This is a culminating standard for extending multiplication and division to fractions. **Fluency Expectations or Examples of Culminating Standards** Students interpret and compute quotients of fractions and solve word problems involving division of fractions by fractions. This completes the extension of operations to fractions.
MAFS.6.NS.2.2:	Fluently divide multi-digit numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently divide multi-digit numbers using the standard algorithm. This is the culminating standard for several years' worth of work with division of whole numbers.
MAFS.6.NS.2.3:	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. This is the culminating standard for several years' worth of work relating to the domains of Number and Operations in Base Ten, Operations and Algebraic Thinking, and Number and Operations — Fractions.
MAFS.6.NS.2.4:	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).*
MAFS.6.NS.3.5:	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
MAFS.6.NS.3.6:	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite. b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
MAFS.6.NS.3.7:	Understand ordering and absolute value of rational numbers. a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret -3 > -7 as a statement that -3 is located to the right of -7 on a number line oriented from left to right.* b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write -3 ^{o}C > -7 ^{o}C to express the fact that -3 ^{o}C is warmer than -7 ^{o}C.* c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write |-30| = 30 to describe the size of the debt in dollars.* d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*
MAFS.6.NS.3.8:	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work with rational numbers in the coordinate plane to solve problems, they combine and consolidate elements from the other standards in this cluster.
MAFS.6.RP.1.1:	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
MAFS.6.RP.1.2:	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*
	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

MAFS.6.RP.1.3:	a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. b. Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?* c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. e. Understand the concept of Pi as the ratio of the circumference of a circle to its diameter. ([1]See Table 2 Common Multiplication and Division Situations) **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they use a range of reasoning and representations to analyze proportional relationships.
MAFS.6.SP.1.1:	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
MAFS.6.SP.1.2:	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.EE.1.1:	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
MAFS.7.EE.1.2:	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*
MAFS.7.NS.1.1:	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.NS.1.2:	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
	Solve real-world and mathematical problems involving the four operations with rational numbers. **Clarifications:**

MAFS.7.NS.1.3:	**Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard (which is closely connected to 7.NS.1.1 and 7.NS.1.2), they consolidate their skill and understanding of addition, subtraction, multiplication and division of rational numbers.
MAFS.7.RP.1.1:	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*
MAFS.7.RP.1.2:	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.* d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.
	Clarifications: **Examples of Opportunities for In-Depth Focus** Students in grade 7 grow in their ability to recognize, represent, and analyze proportional relationships in various ways, including by using tables, graphs, and equations.
MAFS.7.RP.1.3:	Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying

	assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.6

In this Grade 6 Advanced Mathematics course, instructional time should focus on six critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; (4) developing understanding of statistical thinking; (5) developing understanding of and applying proportional relationships; and (6) developing understanding of operations with rational numbers and working with expressions and linear equations.

1. Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication and division with ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they connect ratios and fractions. Students solve a wide variety of problems involving ratios and rates.

1. Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.

1. Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.

1. Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range or mean absolute deviation) can also be useful for summarizing data because two very different set of data can have the same mean and median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.

1. Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

1. Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

Students in Grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths. They prepare for work on scale drawings and constructions in Grade 7 by drawing polygons in the coordinate plane.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor. Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.6.RP.1 Understand ratio concepts and use ratio reasoning to solve problems.

MAFS.6.NS.1 Apply and extend previous understandings of multiplication and division to divide fractions.

MAFS.6.NS.3 Apply and extend previous understandings of numbers to the system of rational numbers.

MAFS.6.EE.1 Apply and extend previous understanding of arithmetic to algebraic expressions.

MAFS.6.EE.2 Reason about and solve one-step equations and inequalities.

MAFS.6.EE.3 Represent and analyze quantitative relationships between dependent and independent variables.

MAFS.7.RP.1 Analyze proportional relationships and use them to solve real-world and mathematical problems.

MAFS.7.EE.1 Use properties of operations to generate equivalent expressions.

MAFS.7.NS.1 Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Supporting Clusters

MAFS.6.G.1 Solve real-world and mathematical problems involving area, surface area, and volume.

Additional Clusters

MAFS.6.NS.2 Compute fluently with multi-digit numbers and find common factors and multiples.

MAFS.6.SP.1 Develop understanding of statistical variability.

MAFS.6.SP.2 Summarize and describe distributions.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 1205020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J ACCEL MATH GR 6

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6

Educator Certifications

Mathematics (Elementary Grades 1-6)
Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J Mathematics 1 Cambridge Lower Secondary (#1205030) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

GENERAL INFORMATION

Course Number: 1205030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J MATH 1 CLS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Mathematics (Elementary Grades 1-6)
Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J Grade 7 Mathematics (#1205040) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.7.EE.1.1:	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
MAFS.7.EE.1.2:	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*
MAFS.7.EE.2.3:	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.* **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students solve multistep problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. This work is the culmination of many progressions of learning in arithmetic, problem solving and mathematical practices. **Examples of Opportunities for In-Depth Focus** This is a major capstone standard for arithmetic and its applications.
MAFS.7.EE.2.4:	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.* **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** In solving word problems leading to one-variable equations of the form px + q = r and p(x + q) = r, students solve the equations fluently. This will require fluency with rational number arithmetic (7.NS.1.1–1.3), as well as fluency to some extent with applying properties operations to rewrite linear expressions with rational coefficients (7.EE.1.1). **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard builds on the work that led to meeting 6.EE.2.7 and prepares students for the work that will lead to meeting 8.EE.3.7.
MAFS.7.G.1.1:	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
MAFS.7.G.1.2:	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
MAFS.7.G.1.3:	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
MAFS.7.G.2.4:	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
MAFS.7.G.2.5:	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
MAFS.7.G.2.6:	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard draws together grades 3–6 work with geometric measurement.
	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-

MAFS.7.NS.1.1:	world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.NS.1.2:	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Adding, subtracting, multiplying, and dividing rational numbers is the culmination of numerical work with the four basic operations. The number system will continue to develop in grade 8, expanding to become the real numbers by the introduction of irrational numbers, and will develop further in high school, expanding to become the complex numbers with the introduction of imaginary numbers. Because there are no specific standards for rational number arithmetic in later grades and because so much other work in grade 7 depends on rational number arithmetic, fluency with rational number arithmetic should be the goal in grade 7.
MAFS.7.NS.1.3:	Solve real-world and mathematical problems involving the four operations with rational numbers. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard (which is closely connected to 7.NS.1.1 and 7.NS.1.2), they consolidate their skill and understanding of addition, subtraction, multiplication and division of rational numbers.
MAFS.7.RP.1.1:	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*
MAFS.7.RP.1.2:	Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.* d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Students in grade 7 grow in their ability to recognize, represent, and analyze proportional relationships in various ways, including by using tables, graphs, and equations.
MAFS.7.RP.1.3:	Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
MAFS.7.SP.1.1:	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
MAFS.7.SP.1.2:	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
MAFS.7.SP.2.3:	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.7.SP.3.6:	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*
MAFS.7.SP.3.7:	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*
MAFS.7.SP.3.8:	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use

	technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.7

In Grade 7,instructional time should focus on four critical area: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

1. Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related

line, called the slope. They distinguish proportional relationships from other relationships.

2. Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.
3. Students continue their work with area from Grade 6, solving problems involving area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationship between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.
4. Students build on their previous work with single data distributions to compare two data distributions and address questions about difference between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.7.RP.1 Analyze proportional relationships and use them to solve real-world and mathematical problems.

MAFS.7.NS.1 Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

MAFS.7.EE.1 Use properties of operations to generate equivalent expressions.

MAFS.7.EE.2 Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Supporting Clusters

MAFS.7.SP.1 Use random sampling to draw inferences about a population.

MAFS.7.SP.3 Investigate chance processes and develop, use, and evaluate probability models.

Additional Clusters

MAFS.7.G.1 Draw, construct, and describe geometrical figures and describe the relationships between them.

MAFS.7.G.2 Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

MAFS.7.SP.2 Draw informal comparative inferences about two populations.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 1205040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >
Abbreviated Title: M/J GRADE 7 MATH
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Type: Core Academic Course
Course Level: 2
Course Status: Draft - Course Pending Approval
Grade Level(s): 6,7,8

Educator Certifications

Middle Grades Mathematics (Middle Grades 5-9)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Mathematics (Grades 6-12)

M/J Accelerated Mathematics Grade 7 (#1205050) 2020 - 2022

(current)

Course Standards

Name	Description
	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
MAFS.7.EE.2.3:	**Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students solve multistep problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. This work is the culmination of many progressions of learning in arithmetic, problem solving and mathematical practices. **Examples of Opportunities for In-Depth Focus** This is a major capstone standard for arithmetic and its applications.
	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*
MAFS.7.EE.2.4:	**Clarifications:** **Fluency Expectations or Examples of Culminating Standards** In solving word problems leading to one-variable equations of the form px + q = r and p(x + q) = r, students solve the equations fluently. This will require fluency with rational number arithmetic (7.NS.1.1–1.3), as well as fluency to some extent with applying properties operations to rewrite linear expressions with rational coefficients (7.EE.1.1). **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard builds on the work that led to meeting 6.EE.2.7 and prepares students for the work that will lead to meeting 8.EE.3.7.
MAFS.7.G.1.1:	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
MAFS.7.G.1.2:	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
MAFS.7.G.1.3:	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
MAFS.7.G.2.4:	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
MAFS.7.G.2.5:	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
MAFS.7.G.2.6:	**Clarifications:** **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard draws together grades 3–6 work with geometric measurement.
MAFS.7.SP.1.1:	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or

MAFS.7.SP.1.2:	simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
MAFS.7.SP.2.3:	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.7.SP.3.6:	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*
MAFS.7.SP.3.7:	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*
MAFS.7.SP.3.8:	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*
MAFS.8.EE.1.1:	Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.*
MAFS.8.EE.1.2:	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
MAFS.8.EE.1.3:	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.*
MAFS.8.EE.1.4:	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
MAFS.8.EE.2.5:	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on grades 6–7 work with proportions and position themselves for grade 8 work with functions and the equation of a line.
MAFS.8.EE.2.6:	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.
MAFS.8.EE.3.7:	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students have been working informally with one-variable linear equations since as early as kindergarten. This important line of development culminates in grade 8 with the solution of general one-variable linear equations, including cases with infinitely many solutions or no solutions as well as cases requiring algebraic manipulation using properties of operations. Coefficients and constants in these equations may be any rational numbers. **Examples of Opportunities for In-Depth Focus** This is a culminating standard for solving one-variable linear equations.
	Analyze and solve pairs of simultaneous linear equations.

MAFS.8.EE.3.8:	a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.* c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on what they know about two-variable linear equations, and they enlarge the varieties of real-world and mathematical problems they can solve.
MAFS.8.F.1.1:	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
MAFS.8.F.1.2:	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard repositions previous work with tables and graphs in the new context of input/output rules.
MAFS.8.F.1.3:	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function A = s² giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*
MAFS.8.F.2.4:	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.1.1:	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.
MAFS.8.G.1.2:	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
MAFS.8.G.1.3:	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
MAFS.8.G.1.4:	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
MAFS.8.G.1.5:	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*
MAFS.8.G.2.6:	Explain a proof of the Pythagorean Theorem and its converse.
MAFS.8.G.2.7:	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The Pythagorean theorem is useful in practical problems, relates to grade-level work in irrational numbers and plays an important role mathematically in coordinate geometry in high school.
MAFS.8.G.2.8:	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
MAFS.8.NS.1.1:	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
MAFS.8.NS.1.2:	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π²). *For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*
MAFS.8.SP.1.1:	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
MAFS.8.SP.1.2:	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example,*

MAFS.8.SP.1.3:	*in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.7

In this Grade 7 Advanced Mathematics course, instructional time should focus on five critical area: (1) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; (2) drawing inferences about populations based on samples; (3) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (4) grasping the concept of a function and using functions to describe quantitative relationships; and (5) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

1. Students continue their work with area from Grade 6, solving problems involving area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationship between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.
2. Students build on their previous work with single data distributions to compare two data distributions and address questions about difference between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.
3. Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount m(A). Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question and to interpret components of the relationship (such as slope and y-intercept) in terms of the situation.

   Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear

functions, and their understanding of slope of a line to analyze situations and solve problems.

4. Students grasp the concept of a function as a rule that assigns to each input exactly one output. They understand that functions describe situations where one quantity determines another. They can translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and they describe how aspects of the function are reflected in the different representations.
5. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilation, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a traversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide (found at fldoe.org/academics/standards/subject-areas/math-science/mathematics/fsig.stml) was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor. Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.7.EE.2 Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

MAFS.8.EE.1 Work with radicals and integer exponents.

MAFS.8.EE.2 Understand the connections between proportional relationships, lines, and linear equations.

MAFS.8.EE.3 Analyze and solve linear equations and pairs of simultaneous linear equations.

MAFS.8.F.1 Define, evaluate, and compare functions.

MAFS.8.F.2 Use functions to model relationships between quantities.

MAFS.8.G.1 Understand congruence and similarity using physical models, transparencies, or geometry software.

MAFS.8.G.2 Understand and apply the Pythagorean Theorem.

Supporting Clusters

MAFS.7.SP.1 Use random sampling to draw inferences about a population.

MAFS.7.SP.3 Investigate chance processes and develop, use, and evaluate probability models.

MAFS.8.NS.1 Know that there are numbers that are not rational, and approximate them by rational numbers.

MAFS.8.SP.1 Investigate patterns of association in bivariate data.

Additional Clusters

MAFS.7.G.1 Draw, construct, and describe geometrical figures and describe the relationships between them.

MAFS.7.G.2 Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

MAFS.7.SP.2 Draw informal comparative inferences about two populations.

MAFS.G.3 Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 1205050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J ACCEL MATH GR 7
Course Length: Year (Y)
Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course
Course Level: 3
Course Status: Course Approved
Grade Level(s): 7

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)
Middle Grades Integrated Curriculum (Middle Grades 5-9)

M/J Mathematics 2 Cambridge Lower Secondary (#1205055) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

AICE COURSE DESCRIPTION

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

GENERAL INFORMATION

Course Number: 1205055

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J MATH 2 CLS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Mathematics (Elementary Grades 1-6)
Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)

M/J Mathematics 3 Cambridge Lower Secondary (#1205060) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

AICE COURSE DESCRIPTION

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

GENERAL INFORMATION

Course Number: 1205060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J MATH 3 CLS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Mathematics (Elementary Grades 1-6)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)

M/J Grade 8 Pre-Algebra (#1205070) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.8.EE.1.1:	Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.
MAFS.8.EE.1.2:	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
MAFS.8.EE.1.3:	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as* 3×10^8 *and the population of the world as* 7×10^9*, and determine that the world population is more than 20 times larger.*
MAFS.8.EE.1.4:	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
MAFS.8.EE.2.5:	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on grades 6–7 work with proportions and position themselves for grade 8 work with functions and the equation of a line.
MAFS.8.EE.2.6:	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.
MAFS.8.EE.3.7:	Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students have been working informally with one-variable linear equations since as early as kindergarten. This important line of development culminates in grade 8 with the solution of general one-variable linear equations, including cases with infinitely many solutions or no solutions as well as cases requiring algebraic manipulation using properties of operations. Coefficients and constants in these equations may be any rational numbers. **Examples of Opportunities for In-Depth Focus** This is a culminating standard for solving one-variable linear equations.
MAFS.8.EE.3.8:	Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.* c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they build on what they know about two-variable linear equations, and they enlarge the varieties of real-world and mathematical problems they can solve.
MAFS.8.F.1.1:	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
MAFS.8.F.1.2:	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Work toward meeting this standard repositions previous work with tables and graphs in the new context of input/output rules.

MAFS.8.F.1.3:	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function A = s² giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*
MAFS.8.F.2.4:	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.1.1:	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.
MAFS.8.G.1.2:	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
MAFS.8.G.1.3:	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
MAFS.8.G.1.4:	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
MAFS.8.G.1.5:	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*
MAFS.8.G.2.6:	Explain a proof of the Pythagorean Theorem and its converse.
MAFS.8.G.2.7:	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The Pythagorean theorem is useful in practical problems, relates to grade-level work in irrational numbers and plays an important role mathematically in coordinate geometry in high school.
MAFS.8.G.2.8:	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
MAFS.8.NS.1.1:	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
MAFS.8.NS.1.2:	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π²). *For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*
MAFS.8.SP.1.1:	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
MAFS.8.SP.1.2:	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
MAFS.8.SP.1.3:	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative

	reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Additional content addressed on the Grade 8 NAEP Mathematics assessment includes:

- Draw or sketch from a written description polygons, circles, or semicircles. (MAFS.7.G.1.2; include circles and semicircles)
- Represent or describe a three-dimensional situation in a two-dimensional drawing from different views. (MAFS.6.G.1.4)
- Demonstrate an understanding about the two- and three-dimensional shapes in our world through identifying, drawing, modeling, building, or taking apart. (MAFS.6.G.1.4, MAFS.7.G.1.3, MAFS.7.G.2.6)
- Visualize or describe the cross section of a solid. (MAFS.7.G.1.3)
- Represent geometric figures using rectangular coordinates on a plane. (MAFS.6.G.1.3)
- Describe how mean, median, mode, range, or interquartile ranges relate to distribution shape. (MAFS.6.SP.2.5c)
- Using appropriate statistical measures, compare two or more data sets describing the same characteristic for two different populations for subset of the same population. (MAFS.7.SP.2.3, MAFS.7.SP.2.4)
- Given a sample, identify possible sources of bias in sampling. (MAFS.7.SP.1.1)
- Distinguish between a random and nonrandom sample. (MAFS.7.SP.1.1)
- Evaluate the design of an experiment. (MAFS.7.SP.1.2)
- Determine the theoretical probability of simple and compound events in familiar contexts. (MAFS.7.SP.3.8a)
- Estimate the probability of simple and compound events through experimentation or simulation. (MAFS.7.SP.3.8)
- Use theoretical probability to evaluate or predict experimental outcomes. (MAFS.7.SP.3.6, MAFS.SP.3.7)
- Describe relative positions of points and lines using the geometric ideas of midpoint, points on common line through a common point, parallelism, or perpendicularity.
- Describe the intersection of two or more geometric figures in the plane (e.g., intersection of a circle and a line).
- Make and test a geometric conjecture about regular polygons.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.8.EE.1 Work with radicals and integer exponents.

MAFS.8.EE.2 Understand the connections between proportional relationships, lines, and linear equations.

MAFS.8.EE.3 Analyze and solve linear equations and pairs of simultaneous linear equations.

MAFS.8.F.1 Define, evaluate, and compare functions.

MAFS.8.F.2 Use functions to model relationships between quantities.

MAFS.8.G.1 Understand congruence and similarity using physical models, transparencies, or geometry software.

MAFS.8.G.2 Understand and apply the Pythagorean Theorem.

Supporting Clusters

MAFS.8.NS.1 Know that there are numbers that are not rational, and approximate them by rational numbers.

MAFS.8.SP.1 Investigate patterns of association in bivariate data.

Additional Clusters

MAFS.G.3 Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

VERSION REQUIREMENTS

In Grade 8, instructional time should focus on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

1. Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions (y/x = m or y = mx) as special linear equations (y = mx + b), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount m(A). Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question and to interpret components of the relationship (such as slope and y-intercept) in terms of the situation.

   Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.
2. Students grasp the concept of a function as a rule that assigns to each input exactly one output. They understand that functions describe situations where one quantity determines another. They can translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and they describe how aspects of the function are reflected in the different representations.
3. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilation, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a traversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Additional Instructional Resources:
A.V.E. for Success Collection: fasa.net/iTunesU/index.cfm

GENERAL INFORMATION

Course Number: 1205070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J GRADE 8 PRE-ALG

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)
Middle Grades Integrated Curriculum (Middle Grades 5-9)

M/J International Baccalaureate MYP Mathematics 1 (#1205090) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 1205090

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J IB MYP MATH 1

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Mathematics (Elementary Grades 1-6)
Middle Grades Mathematics (Middle Grades 5-9)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Mathematics (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J International Baccalaureate MYP Math 2 (#1205095) 2018 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1205095

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J IB MYP MATH 2

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Mathematics (Elementary Grades 1-6)
Mathematics (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Middle Grades Mathematics (Middle Grades 5-9)

M/J International Baccalaureate MYP Pre-Algebra (#1205100) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 1205100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: M/J IB MYP PRE-ALGEB

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)

Informal Geometry (#1206300) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.912.G-C.1.1:	Prove that all circles are similar.
MAFS.912.G-C.1.2:	Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
MAFS.912.G-CO.1.1:	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
MAFS.912.G-CO.1.2:	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
MAFS.912.G-CO.1.3:	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
MAFS.912.G-CO.1.4:	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
MAFS.912.G-CO.1.5:	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
MAFS.912.G-CO.2.6:	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
MAFS.912.G-CO.2.7:	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
MAFS.912.G-CO.2.8:	Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions.
MAFS.912.G-GMD.1.1:	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-GMD.2.4:	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
MAFS.912.G-GPE.2.4:	Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.6:	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
MAFS.912.G-GPE.2.7:	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★ **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-MG.1.1:	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.G-MG.1.3:	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). ★
MAFS.912.G-SRT.1.1:	Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
MAFS.912.G-SRT.1.2:	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
MAFS.912.G-SRT.1.3:	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
MAFS.912.G-SRT.2.5:	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the triangle congruence and similarity criteria will help students throughout their investigations of triangles, quadrilaterals, circles, parallelism, and trigonometric ratios. These criteria are necessary tools in many geometric modeling tasks.
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending

MAFS.K12.MP.1.1:	on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.

LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The fundamental purpose of the course in Informal Geometry is to extend students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships. Important differences exist between this Geometry course and the historical approach taken in Geometry classes. For example, transformations are emphasized early in this course. Close attention should be paid to the introductory content for the Geometry conceptual category found in the high school standards. The Standards for Mathematical Practice apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas, organized into five units are as follows.

Unit 1- Congruence, Proof, and Constructions: In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. Students informally prove theorems, using a variety of formats, and solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Unit 2- Similarity, Proof, and Trigonometry: Students apply their earlier experience with dilations and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles, with particular attention to special right triangles and the Pythagorean theorem.

Unit 3- Extending to Three Dimensions: Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas.

Unit 4- Connecting Algebra and Geometry Through Coordinates: Building on their work with the Pythagorean theorem in 8th grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines, which relates back to work done in the first course.

Unit 5- Circles With and Without Coordinates: In this unit students study the Cartesian coordinate system and use the distance formula to write the equation of a circle when given the radius and the coordinates of its center. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations, which relates back to work done in the first course, to determine intersections between lines and circles or parabolas.

GENERAL NOTES

Important Note: This Informal Geometry course content does not align with the End-of-Course Assessment required for graduation.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1206300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Geometry >

Abbreviated Title: INF GEO

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

Pre-Advanced Placement Geometry with Statistics (#1206305) 2020 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Pre-Advanced Placement (Pre-AP) course is located on the College Board site at pre-ap.collegeboard.org/courses.

GENERAL INFORMATION

Course Number: 1206305

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 10

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Geometry >

Abbreviated Title: PRE-AP GEOM W/STAT

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Geometry (#1206310) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.912.G-C.1.1:	Prove that all circles are similar.
MAFS.912.G-C.1.2:	Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
MAFS.912.G-C.1.3:	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
MAFS.912.G-C.2.5:	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
MAFS.912.G-CO.1.1:	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
MAFS.912.G-CO.1.2:	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
MAFS.912.G-CO.1.3:	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
MAFS.912.G-CO.1.4:	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
MAFS.912.G-CO.1.5:	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
MAFS.912.G-CO.2.6:	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
MAFS.912.G-CO.2.7:	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
MAFS.912.G-CO.2.8:	Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions.
MAFS.912.G-CO.3.9:	Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
MAFS.912.G-CO.3.10:	Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; triangle inequality theorem; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
MAFS.912.G-CO.3.11:	Prove theorems about parallelograms; use theorems about parallelograms to solve problems. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*
MAFS.912.G-CO.4.12:	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of construction tools, physical and computational, helps students draft a model of a geometric phenomenon and can lead to conjectures and proofs.
MAFS.912.G-CO.4.13:	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.
MAFS.912.G-GMD.1.1:	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-GMD.2.4:	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
MAFS.912.G-GPE.1.1:	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
MAFS.912.G-GPE.2.4:	Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.5:	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.

MAFS.912.G-GPE.2.6:	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
MAFS.912.G-GPE.2.7:	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★ **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-MG.1.1:	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.G-MG.1.3:	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). ★
MAFS.912.G-SRT.1.1:	Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
MAFS.912.G-SRT.1.2:	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
MAFS.912.G-SRT.1.3:	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
MAFS.912.G-SRT.2.4:	Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
MAFS.912.G-SRT.2.5:	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the triangle congruence and similarity criteria will help students throughout their investigations of triangles, quadrilaterals, circles, parallelism, and trigonometric ratios. These criteria are necessary tools in many geometric modeling tasks.
MAFS.912.G-SRT.3.6:	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
MAFS.912.G-SRT.3.7:	Explain and use the relationship between the sine and cosine of complementary angles.
MAFS.912.G-SRT.3.8:	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

VERSION DESCRIPTION

The fundamental purpose of the course in Geometry is to formalize and extend students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. Important differences exist between this Geometry course and the historical approach taken in Geometry classes. For example, transformations are emphasized early in this course. Close attention should be paid to the introductory content for the Geometry conceptual category found in the high school standards. The Standards for Mathematical Practice apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas, organized into five units are as follows.

Unit 1-Congruence, Proof, and Constructions: In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They use triangle congruence as a familiar foundation for the development of formal proof. Students prove theorems using a variety of formats and solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Unit 2- Similarity, Proof, and Trigonometry: Students apply their earlier experience with dilation and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean theorem. Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles, building on students work with quadratic equations done in the first course. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles.

Unit 3- Extending to Three Dimensions: Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line.

Unit 4- Connecting Algebra and Geometry Through Coordinates: Building on their work with the Pythagorean theorem in 8th grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines, which relates back to work done in the first course. Students continue their study of quadratics by connecting the geometric and algebraic definitions of the parabola.

Unit 5-Circles With and Without Coordinates: In this unit students prove basic theorems about circles, such as a tangent line is perpendicular to a radius, inscribed angle theorem, and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. They study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations, which relates back to work done in the first course, to determine intersections between lines and circles or parabolas and between two circles.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.912.G-CO.2 Understand congruence in terms of rigid motions.

MAFS.912.G-CO.3 Prove geometric theorems.

MAFS.912.G-SRT.1 Understand similarity in terms of similarity transformations.

MAFS.912.G-SRT.2 Prove theorems involving similarity.

MAFS.912.G-SRT.3 Define trigonometric ratios and solve problems involving right triangles.

MAFS.912.G-GPE.2 Use coordinates to prove simple geometric theorems algebraically.

MAFS.G-MG.1 Apply geometric concepts in modeling situations.

Supporting Clusters

MAFS.912.G-CO.1 Experiment with transformations in the plane.

MAFS.G-CO.4 Make geometric constructions.

Additional Clusters

MAFS.912.G-C.1 Understand and apply theorems about circles.

MAFS.912.G-C.2 Find arc lengths and areas of sectors of circles.

MAFS.912.G-GPE.1 Translate between the geometric description and the equation of a conic section.

MAFS.912.G-GMD.1 Explain volume formulas and use them to solve problems.

MAFS.912.G-GMD.2 Visualize relationships between two-dimensional and three-dimensional objects.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 1206310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Geometry >

Abbreviated Title: GEO

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Geometry

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

Geometry for Credit Recovery (#1206315) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.912.G-C.1.1:	Prove that all circles are similar.
MAFS.912.G-C.1.2:	Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
MAFS.912.G-C.1.3:	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
MAFS.912.G-C.2.5:	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
MAFS.912.G-CO.1.1:	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
MAFS.912.G-CO.1.2:	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
MAFS.912.G-CO.1.3:	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
MAFS.912.G-CO.1.4:	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
MAFS.912.G-CO.1.5:	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
MAFS.912.G-CO.2.6:	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
MAFS.912.G-CO.2.7:	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
MAFS.912.G-CO.2.8:	Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions.
MAFS.912.G-CO.3.9:	Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
MAFS.912.G-CO.3.10:	Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; triangle inequality theorem; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
MAFS.912.G-CO.3.11:	Prove theorems about parallelograms; use theorems about parallelograms to solve problems. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*
MAFS.912.G-CO.4.12:	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of construction tools, physical and computational, helps students draft a model of a geometric phenomenon and can lead to conjectures and proofs.
MAFS.912.G-CO.4.13:	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.
MAFS.912.G-GMD.1.1:	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-GMD.2.4:	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
MAFS.912.G-GPE.1.1:	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
MAFS.912.G-GPE.2.4:	Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.5:	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.

MAFS.912.G-GPE.2.6:	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
MAFS.912.G-GPE.2.7:	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★ **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-MG.1.1:	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.G-MG.1.3:	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). ★
MAFS.912.G-SRT.1.1:	Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
MAFS.912.G-SRT.1.2:	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
MAFS.912.G-SRT.1.3:	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
MAFS.912.G-SRT.2.4:	Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
MAFS.912.G-SRT.2.5:	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the triangle congruence and similarity criteria will help students throughout their investigations of triangles, quadrilaterals, circles, parallelism, and trigonometric ratios. These criteria are necessary tools in many geometric modeling tasks.
MAFS.912.G-SRT.3.6:	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
MAFS.912.G-SRT.3.7:	Explain and use the relationship between the sine and cosine of complementary angles.
MAFS.912.G-SRT.3.8:	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

VERSION DESCRIPTION

Special notes: Credit Recovery courses are credit bearing courses with specific content requirements defined by Next Generation Sunshine State Standards and/or Florida Standards. Students enrolled in a Credit Recovery course must have previously attempted the corresponding course (and/or End-of-Course assessment) since the course requirements for the Credit Recovery course are exactly the same as the previously attempted corresponding course. For example, Geometry (1206310) and Geometry for Credit Recovery (1206315) have identical content requirements. It is important to note that Credit Recovery courses are not bound by Section 1003.436(1)(a), Florida Statutes, requiring a minimum of 135 hours of bona fide instruction (120 hours in a school/district implementing block scheduling) in a designed course of study that contains student performance standards, since the students have previously attempted successful completion of the corresponding course. Additionally, Credit Recovery courses should ONLY be used for credit recovery, grade forgiveness, or remediation for students needing to prepare for an End-of-Course assessment retake.

GENERAL NOTES

The fundamental purpose of the course in Geometry is to formalize and extend students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. Important differences exist between this Geometry course and the historical approach taken in Geometry classes. For example, transformations are emphasized early in this course. Close attention should be paid to the introductory content for the Geometry conceptual category found in the high school CCSS. The Standards for Mathematical Practice apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas, organized into five units are as follows.

Unit 1- Congruence, Proof, and Constructions: In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They use triangle congruence as a familiar foundation for the development of formal proof. Students prove theorems—using a variety of formats—and solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Unit 2- Similarity, Proof, and Trigonometry: Students apply their earlier experience with dilations and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean theorem. Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles, building on students' work with quadratic equations done in the first course. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles.

Unit 3- Extending to Three Dimensions: Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line.

Unit 4- Connecting Algebra and Geometry Through Coordinates: Building on their work with the Pythagorean theorem in 8th grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines, which relates back to work done in the first course. Students continue their study of quadratics by connecting the geometric and algebraic definitions of the parabola.

Unit 5- Circles With and Without Coordinates: In this unit students prove basic theorems about circles, such as a tangent line is perpendicular to a radius, inscribed angle theorem, and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. They study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations, which relates back to work done in the first course, to determine intersections between lines and circles or parabolas and between two circles.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1206315

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Geometry > **Abbreviated Title:** GEO CR

Number of Credits: One (1) credit

Course Length: Credit Recovery (R)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

Geometry Honors (#1206320) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.912.G-C.1.1:	Prove that all circles are similar.
MAFS.912.G-C.1.2:	Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
MAFS.912.G-C.1.3:	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
MAFS.912.G-C.1.4:	Construct a tangent line from a point outside a given circle to the circle.
MAFS.912.G-C.2.5:	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
MAFS.912.G-CO.1.1:	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
MAFS.912.G-CO.1.2:	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
MAFS.912.G-CO.1.3:	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
MAFS.912.G-CO.1.4:	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
MAFS.912.G-CO.1.5:	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
MAFS.912.G-CO.2.6:	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
MAFS.912.G-CO.2.7:	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
MAFS.912.G-CO.2.8:	Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions.
MAFS.912.G-CO.3.9:	Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
MAFS.912.G-CO.3.10:	Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; triangle inequality theorem; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
MAFS.912.G-CO.3.11:	Prove theorems about parallelograms; use theorems about parallelograms to solve problems. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*
MAFS.912.G-CO.4.12:	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of construction tools, physical and computational, helps students draft a model of a geometric phenomenon and can lead to conjectures and proofs.
MAFS.912.G-CO.4.13:	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.
MAFS.912.G-GMD.1.1:	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
MAFS.912.G-GMD.1.2:	Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-GMD.2.4:	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
MAFS.912.G-GPE.1.1:	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
MAFS.912.G-GPE.1.2:	Derive the equation of a parabola given a focus and directrix.
MAFS.912.G-GPE.1.3:	Derive the equations of ellipses and hyperbolas given the foci and directrices.
MAFS.912.G-GPE.2.4:	Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).

MAFS.912.G-GPE.2.5:	**Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.6:	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
MAFS.912.G-GPE.2.7:	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★ **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-MG.1.1:	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.G-MG.1.3:	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). ★
MAFS.912.G-SRT.1.1:	Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
MAFS.912.G-SRT.1.2:	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
MAFS.912.G-SRT.1.3:	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
MAFS.912.G-SRT.2.4:	Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
MAFS.912.G-SRT.2.5:	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the triangle congruence and similarity criteria will help students throughout their investigations of triangles, quadrilaterals, circles, parallelism, and trigonometric ratios. These criteria are necessary tools in many geometric modeling tasks.
MAFS.912.G-SRT.3.6:	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
MAFS.912.G-SRT.3.7:	Explain and use the relationship between the sine and cosine of complementary angles.
MAFS.912.G-SRT.3.8:	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★
MAFS.912.G-SRT.4.10:	Prove the Laws of Sines and Cosines and use them to solve problems.
MAFS.912.G-SRT.4.11:	Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional

MAFS.K12.MP.4.1:	reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.

LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The fundamental purpose of the course in Geometry is to formalize and extend students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. Important differences exist between this Geometry course and the historical approach taken in Geometry classes. For example, transformations are emphasized early in this course. Close attention should be paid to the introductory content for the Geometry conceptual category found in the high school standards. The Standards for Mathematical Practice apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. The critical areas, organized into five units are as follows.

Unit 1- Congruence, Proof, and Constructions: In previous grades, students were asked to draw triangles based on given measurements. They also have prior experience with rigid motions: translations, reflections, and rotations and have used these to develop notions about what it means for two objects to be congruent. In this unit, students establish triangle congruence criteria, based on analyses of rigid motions and formal constructions. They use triangle congruence as a familiar foundation for the development of formal proof. Students prove theorems using a variety of formats and solve problems about triangles, quadrilaterals, and other polygons. They apply reasoning to complete geometric constructions and explain why they work.

Unit 2- Similarity, Proof, and Trigonometry: Students apply their earlier experience with dilation and proportional reasoning to build a formal understanding of similarity. They identify criteria for similarity of triangles, use similarity to solve problems, and apply similarity in right triangles to understand right triangle trigonometry, with particular attention to special right triangles and the Pythagorean theorem. Students develop the Laws of Sines and Cosines in order to find missing measures of general (not necessarily right) triangles, building on students work with quadratic equations done in the first course. They are able to distinguish whether three given measures (angles or sides) define 0, 1, 2, or infinitely many triangles.

Unit 3- Extending to Three Dimensions: Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line.

Unit 4- Connecting Algebra and Geometry Through Coordinates: Building on their work with the Pythagorean theorem in 8th grade to find distances, students use a rectangular coordinate system to verify geometric relationships, including properties of special triangles and quadrilaterals and slopes of parallel and perpendicular lines, which relates back to work done in the first course. Students continue their study of quadratics by connecting the geometric and algebraic definitions of the parabola.

Unit 5 Circles With and Without Coordinates: In this unit students prove basic theorems about circles, such as a tangent line is perpendicular to a radius, inscribed angle theorem, and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. They study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students use the distance formula to write the equation of a circle when given the radius and the coordinates of its center. Given an equation of a circle, they draw the graph in the coordinate plane, and apply techniques for solving quadratic equations, which relates back to work done in the first course, to determine intersections between lines and circles or parabolas and between two circles.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.912.G-CO.2 Understand congruence in terms of rigid motions.

MAFS.912.G-CO.3 Prove geometric theorems.

MAFS.912.G-SRT.1 Understand similarity in terms of similarity transformations.

MAFS.912.G-SRT.2 Prove theorems involving similarity.

MAFS.912.G-SRT.3 Define trigonometric ratios and solve problems involving right triangles.

MAFS.912.G-GPE.2 Use coordinates to prove simple geometric theorems algebraically.

MAFS.G-MG.1 Apply geometric concepts in modeling situations.

Supporting Clusters

MAFS.912.G-CO.1 Experiment with transformations in the plane.

MAFS.G-CO.4 Make geometric constructions.

Additional Clusters

MAFS.912.G-C.1 Understand and apply theorems about circles.

MAFS.912.G-C.2 Find arc lengths and areas of sectors of circles.

MAFS.912.G-GPE.1 Translate between the geometric description and the equation of a conic section.

MAFS.912.G-GMD.1 Explain volume formulas and use them to solve problems.

MAFS.912.G-GMD.2 Visualize relationships between two-dimensional and three-dimensional objects.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 1206320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Geometry >

Abbreviated Title: GEO HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Geometry

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

International Baccalaureate Mid Yrs Prog Geometry (#1206810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1206810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Geometry >

Abbreviated Title: IB MYP GEOM

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Geometry

Educator Certifications

Middle Grades Mathematics (Middle Grades 5-9)
Mathematics (Grades 6-12)

Liberal Arts Mathematics 1 (#1207300) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.912.A-APR.1.1:	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. **Clarifications:** **Algebra 1 - Fluency Recommendations** Fluency in adding, subtracting, and multiplying polynomials supports students throughout their work in algebra, as well as in their symbolic work with functions. Manipulation can be more mindful when it is fluent.
MAFS.912.A-CED.1.1:	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. ★
MAFS.912.A-CED.1.2:	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★
MAFS.912.A-CED.1.3:	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* ★
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.A-REI.1.1:	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
MAFS.912.A-REI.1.2:	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
MAFS.912.A-REI.2.3:	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
MAFS.912.A-REI.3.5:	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
MAFS.912.A-REI.3.6:	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
MAFS.912.A-REI.4.10:	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
MAFS.912.A-REI.4.11:	Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. ★
MAFS.912.A-REI.4.12:	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
MAFS.912.A-SSE.1.1:	Interpret expressions that represent a quantity in terms of its context. ★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1+r)^n$ *as the product of P and a factor not depending on P.*
MAFS.912.F-IF.1.1:	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).
MAFS.912.F-IF.1.2:	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.2.5:	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble engines in a factory, then the positive integers would be an appropriate domain for the function.* ★
MAFS.912.F-IF.2.6:	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. ★
MAFS.912.G-CO.1.1:	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
MAFS.912.G-CO.1.3:	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
MAFS.912.G-CO.1.4:	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
MAFS.912.G-CO.4.12:	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of construction tools, physical and computational, helps students draft a model of a geometric phenomenon and can lead to conjectures and proofs.
MAFS.912.G-CO.4.13:	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-GMD.2.4:	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
MAFS.912.G-MG.1.1:	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.G-MG.1.3:	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). ★
MAFS.912.G-SRT.1.2:	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
MAFS.912.G-SRT.1.3:	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
MAFS.912.G-SRT.2.4:	Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
MAFS.912.G-SRT.2.5:	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the triangle congruence and similarity criteria will help students throughout their investigations of triangles, quadrilaterals, circles, parallelism, and trigonometric ratios. These criteria are necessary tools in many geometric modeling tasks.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.2:	Define appropriate quantities for the purpose of descriptive modeling. ★ **Clarifications:** **Algebra 1 Content Notes:** Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read

	the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
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LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s)

LAFS.910.WHST.1.1:	and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
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ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1207300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Liberal Arts Mathematics > **Abbreviated Title:** LIB ARTS MATH 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

Liberal Arts Mathematics 2 (#1207310) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.912.A-APR.2.2:	Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).
MAFS.912.A-APR.2.3:	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
MAFS.912.A-APR.3.4:	Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 – y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.
MAFS.912.A-APR.4.6:	Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.
MAFS.912.A-REI.2.4:	Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.
MAFS.912.A-REI.3.7:	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line $y = –3x$ and the circle $x^2 + y^2 = 3$.*
MAFS.912.A-SSE.1.2:	Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 – y^2)(x^2 + y^2)$.*
MAFS.912.A-SSE.2.3:	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
MAFS.912.A-SSE.2.4:	Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.F-IF.3.8:	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.*
MAFS.912.F-IF.3.9:	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*
MAFS.912.F-LE.1.1:	Distinguish between situations that can be modeled with linear functions and with exponential functions. ★ a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
MAFS.912.F-LE.1.2:	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). ★
MAFS.912.F-LE.1.3:	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. ★
MAFS.912.F-LE.1.4:	For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology. ★
MAFS.912.F-LE.2.5:	Interpret the parameters in a linear or exponential function in terms of a context. ★
MAFS.912.G-GPE.1.1:	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.

MAFS.912.G-GPE.1.2:	Derive the equation of a parabola given a focus and directrix.
MAFS.912.G-GPE.2.4:	Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.G-GPE.2.5:	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). **Clarifications:** **Geometry - Fluency Recommendations** Fluency with the use of coordinates to establish geometric results, calculate length and angle, and use geometric representations as a modeling tool are some of the most valuable tools in mathematics and related fields.
MAFS.912.N-CN.1.1:	Know there is a complex number i such that $i^2 = -1$, and every complex number has the form a + bi with a and b real.
MAFS.912.N-CN.1.2:	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
MAFS.912.N-CN.3.7:	Solve quadratic equations with real coefficients that have complex solutions.
MAFS.912.N-RN.1.1:	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define* $5^{1/3}$ *to be the cube root of 5 because we want* $(5^{1/3})^3 = 5^{(1/3)3}$ *to hold, so* $(5^{1/3})^3$ *must equal 5.*
MAFS.912.N-RN.1.2:	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
MAFS.912.N-RN.2.3:	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.
MAFS.912.S-CP.1.4:	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.* ★
MAFS.912.S-CP.1.5:	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.* ★
MAFS.912.S-IC.1.1:	Understand statistics as a process for making inferences about population parameters based on a random sample from that population. ★
MAFS.912.S-IC.1.2:	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model* ★
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Model with mathematics.

MAFS.K12.MP.4.1:	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
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	reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
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General Course Information and Notes

GENERAL NOTES

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GENERAL INFORMATION

Course Number: 1207310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Liberal Arts Mathematics > **Abbreviated Title:** LIB ARTS MATH 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12,30,31

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Mathematics for College Liberal Arts (#1207350) 2022 - And Beyond

(current)

Course Standards

Name	Description
MA.912.AR.2.5:	Solve and graph mathematical and real-world problems that are modeled with linear functions. Interpret key features and determine constraints in terms of the context. **Clarifications:** *Clarification 1*: Key features are limited to domain, range, intercepts and rate of change. *Clarification 2*: Instruction includes the use of standard form, slope-intercept form and point-slope form. *Clarification 3*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation. *Clarification 4*: Within the Algebra 1 course, notations for domain, range and constraints are limited to inequality and set-builder. *Clarification 5*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.5.3:	Given a mathematical or real-world context, classify an exponential function as representing growth or decay. **Clarifications:** *Clarification 1:* Within the Algebra 1 course, exponential functions are limited to the forms $f(x) = ab^x$, where b is a whole number greater than 1 or a unit fraction, or $f(x) = a(1 \pm r)^x$, where $0 < r < 1$.
MA.912.AR.5.4:	Write an exponential function to represent a relationship between two quantities from a graph, a written description or a table of values within a mathematical or real-world context. **Clarifications:** *Clarification 1:* Within the Algebra 1 course, exponential functions are limited to the forms $f(x) = ab^x$, where b is a whole number greater than 1 or a unit fraction, or $f(x) = a(1 \pm r)^x$, where $0 < r < 1$. *Clarification 2:* Within the Algebra 1 course, tables are limited to having successive nonnegative integer inputs so that the function may be determined by finding ratios between successive outputs.
MA.912.AR.5.5:	Given an expression or equation representing an exponential function, reveal the constant percent rate of change per unit interval using the properties of exponents. Interpret the constant percent rate of change in terms of a real-world context.
MA.912.AR.5.6:	Given a table, equation or written description of an exponential function, graph that function and determine its key features. **Clarifications:** *Clarification 1:* Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; constant percent rate of change; end behavior and asymptotes. *Clarification 2:* Instruction includes representing the domain and range with inequality notation, interval notation or set-builder notation. *Clarification 3:* Within the Algebra 1 course, notations for domain and range are limited to inequality and set-builder. *Clarification 4:* Within the Algebra 1 course, exponential functions are limited to the forms $f(x) = ab^x$, where b is a whole number greater than 1 or a unit fraction or $f(x) = a(1 \pm r)^x$, where $0 < r < 1$.
MA.912.DP.1.1:	Given a set of data, select an appropriate method to represent the data, depending on whether it is numerical or categorical data and on whether it is univariate or bivariate. **Clarifications:** *Clarification 1:* Instruction includes discussions regarding the strengths and weaknesses of each data display. *Clarification 2:* Numerical univariate includes histograms, stem-and-leaf plots, box plots and line plots; numerical bivariate includes scatter plots and line graphs; categorical univariate includes bar charts, circle graphs, line plots, frequency tables and relative frequency tables; and categorical bivariate includes segmented bar charts, joint frequency tables and joint relative frequency tables. *Clarification 3:* Instruction includes the use of appropriate units and labels and, where appropriate, using technology to create data displays.
MA.912.DP.1.2:	Interpret data distributions represented in various ways. State whether the data is numerical or categorical, whether it is univariate or bivariate and interpret the different components and quantities in the display. **Clarifications:** *Clarification 1*: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.
MA.912.DP.2.1:	For two or more sets of numerical univariate data, calculate and compare the appropriate measures of center and measures of variability, accounting for possible effects of outliers. Interpret any notable features of the shape of the data distribution. **Clarifications:** *Clarification 1*: The measure of center is limited to mean and median. The measure of variation is limited to range, interquartile range, and standard deviation. *Clarification 2*: Shape features include symmetry or skewness and clustering.

	Clarification 3: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.
MA.912.DP.2.4:	Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. Use the model to solve real-world problems in terms of the context of the data. **Clarifications:** *Clarification 1*: Instruction includes fitting a linear function both informally and formally with the use of technology. *Clarification 2*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.
MA.912.DP.2.9:	Fit an exponential function to bivariate numerical data that suggests an exponential association. Use the model to solve real-world problems in terms of the context of the data. **Clarifications:** *Clarification 1*: Instruction focuses on determining whether an exponential model is appropriate by taking the logarithm of the dependent variable using spreadsheets and other technology. *Clarification 2*: Instruction includes determining whether the transformed scatterplot has an appropriate line of best fit, and interpreting the y-intercept and slope of the line of best fit. *Clarification 3*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.
MA.912.DP.4.1:	Describe events as subsets of a sample space using characteristics, or categories, of the outcomes, or as unions, intersections or complements of other events.
MA.912.DP.4.2:	Determine if events A and B are independent by calculating the product of their probabilities.
MA.912.DP.4.3:	Calculate the conditional probability of two events and interpret the result in terms of its context.
MA.912.DP.4.4:	Interpret the independence of two events using conditional probability.
MA.912.DP.4.5:	Given a two-way table containing data from a population, interpret the joint and marginal relative frequencies as empirical probabilities and the conditional relative frequencies as empirical conditional probabilities. Use those probabilities to determine whether characteristics in the population are approximately independent. **Clarifications:** *Clarification 1*: Instruction includes the connection between mathematical probability and applied statistics.
MA.912.DP.4.6:	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.
MA.912.DP.4.7:	Apply the addition rule for probability, taking into consideration whether the events are mutually exclusive, and interpret the result in terms of the model and its context.
MA.912.DP.4.8:	Apply the general multiplication rule for probability, taking into consideration whether the events are independent, and interpret the result in terms of the context.
MA.912.DP.4.9:	Apply the addition and multiplication rules for counting to solve mathematical and real-world problems, including problems involving probability.
MA.912.DP.4.10:	Given a mathematical or real-world situation, calculate the appropriate permutation or combination.
MA.912.F.1.6:	Compare key features of linear and nonlinear functions each represented algebraically, graphically, in tables or written descriptions. **Clarifications:** *Clarification 1*: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior and asymptotes. *Clarification 2*: Within the Algebra 1 course, functions other than linear, quadratic or exponential must be represented graphically. *Clarification 3*: Within the Algebra 1 course, instruction includes verifying that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.
MA.912.F.1.8:	Determine whether a linear, quadratic or exponential function best models a given real-world situation. **Clarifications:** *Clarification 1*: Instruction includes recognizing that linear functions model situations in which a quantity changes by a constant amount per unit interval; that quadratic functions model situations in which a quantity increases to a maximum, then begins to decrease or a quantity decreases to a minimum, then begins to increase; and that exponential functions model situations in which a quantity grows or decays by a constant percent per unit interval. *Clarification 2*: Within this benchmark, the expectation is to identify the type of function from a written description or table.
MA.912.FL.3.1:	Compare simple, compound and continuously compounded interest over time. **Clarifications:** *Clarification 1*: Instruction includes taking into consideration the annual percentage rate (APR) when comparing simple and compound interest.
MA.912.FL.3.2:	Solve real-world problems involving simple, compound and continuously compounded interest. **Clarifications:** *Clarification 1*: Within the Algebra 1 course, interest is limited to simple and compound.
MA.912.FL.3.4:	Explain the relationship between simple interest and linear growth. Explain the relationship between compound interest and exponential growth and the relationship between continuously compounded interest and exponential growth. **Clarifications:** *Clarification 1*: Within the Algebra 1 course, exponential growth is limited to compound interest.
MA.912.GR.1.6:	Solve mathematical and real-world problems involving congruence or similarity in two-dimensional figures. **Clarifications:** *Clarification 1:* Instruction includes demonstrating that two-dimensional figures are congruent or similar based on given information.
MA.912.GR.2.4:	Determine symmetries of reflection, symmetries of rotation and symmetries of translation of a geometric figure. **Clarifications:** *Clarification 1*: Instruction includes determining the order of each symmetry. *Clarification 2*: Instruction includes the connection between tessellations of the plane and symmetries of translations.

MA.912.GR.4.3:	Extend previous understanding of scale drawings and scale factors to determine how dilations affect the area of two-dimensional figures and the surface area or volume of three-dimensional figures.
MA.912.GR.4.4:	Solve mathematical and real-world problems involving the area of two-dimensional figures. **Clarifications:** *Clarification 1*: Instruction includes concepts of population density based on area.
MA.912.GR.4.5:	Solve mathematical and real-world problems involving the volume of three-dimensional figures limited to cylinders, pyramids, prisms, cones and spheres. **Clarifications:** *Clarification 1:* Instruction includes concepts of density based on volume. *Clarification 2:* Instruction includes using Cavalieri's Principle to give informal arguments about the formulas for the volumes of right and non-right cylinders, pyramids, prisms and cones.
MA.912.GR.4.6:	Solve mathematical and real-world problems involving the surface area of three-dimensional figures limited to cylinders, pyramids, prisms, cones and spheres.
MA.912.LT.4.1:	Translate propositional statements into logical arguments using propositional variables and logical connectives.
MA.912.LT.4.2:	Determine truth values of simple and compound statements using truth tables.
MA.912.LT.4.3:	Identify and accurately interpret "if…then," "if and only if," "all" and "not" statements. Find the converse, inverse and contrapositive of a statement. **Clarifications:** *Clarification 1:* Instruction focuses on recognizing the relationships between an "if…then" statement and the converse, inverse and contrapositive of that statement. *Clarification 2:* Within the Geometry course, instruction focuses on the connection to proofs within the course.
MA.912.LT.4.4:	Represent logic operations, such as AND, OR, NOT, NOR, and XOR, using logical symbolism to solve problems.
MA.912.LT.4.5:	Determine whether two propositions are logically equivalent.
MA.912.LT.4.9:	Construct logical arguments using laws of detachment, syllogism, tautology, contradiction and Euler Diagrams.
MA.912.LT.4.10:	Judge the validity of arguments and give counterexamples to disprove statements. **Clarifications:** *Clarification 1:* Within the Geometry course, instruction focuses on the connection to proofs within the course.
MA.912.LT.5.1:	Given two sets, determine whether the two sets are equivalent and whether one set is a subset of another. Given one set, determine its power set.
MA.912.LT.5.4:	Perform the set operations of taking the complement of a set and the union, intersection, difference and product of two sets. **Clarifications:** *Clarification 1*: Instruction includes the connection to probability and the words AND, OR and NOT.
MA.912.LT.5.5:	Explore relationships and patterns and make arguments about relationships between sets using Venn Diagrams.
MA.912.LT.5.6:	Prove set relations, including DeMorgan's Laws and equivalence relations.
MA.912.T.1.2:	Solve mathematical and real-world problems involving right triangles using trigonometric ratios and the Pythagorean Theorem. **Clarifications:** *Clarification 1*: Instruction includes procedural fluency with the relationships of side lengths in special right triangles having angle measures of 30°-60°-90° and 45°-45°-90°.
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others: • Cultivate a community of growth mindset learners. • Foster perseverance in students by choosing tasks that are challenging. • Develop students' ability to analyze and problem solve. • Recognize students' effort when solving challenging problems.
MA.K12.MTR.2.1:	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: • Build understanding through modeling and using manipulatives. • Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations. • Progress from modeling problems with objects and drawings to using algorithms and equations. • Express connections between concepts and representations. • Choose a representation based on the given context or purpose. **Clarifications:** Teachers who encourage students to demonstrate understanding by representing problems in multiple ways: • Help students make connections between concepts and representations. • Provide opportunities for students to use manipulatives when investigating concepts. • Guide students from concrete to pictorial to abstract representations as understanding progresses. • Show students that various representations can have different purposes and can be useful in different situations.
	Complete tasks with mathematical fluency. Mathematicians who complete tasks with mathematical fluency: • Select efficient and appropriate methods for solving problems within the given context. • Maintain flexibility and accuracy while performing procedures and mental calculations. • Complete tasks accurately and with confidence.

MA.K12.MTR.3.1:	• Adapt procedures to apply them to a new context. • Use feedback to improve efficiency when performing calculations. **Clarifications:** Teachers who encourage students to complete tasks with mathematical fluency: • Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately. • Offer multiple opportunities for students to practice efficient and generalizable methods. • Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.
MA.K12.MTR.4.1:	Engage in discussions that reflect on the mathematical thinking of self and others. Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others: • Communicate mathematical ideas, vocabulary and methods effectively. • Analyze the mathematical thinking of others. • Compare the efficiency of a method to those expressed by others. • Recognize errors and suggest how to correctly solve the task. • Justify results by explaining methods and processes. • Construct possible arguments based on evidence. **Clarifications:** Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others: • Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning. • Create opportunities for students to discuss their thinking with peers. • Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods. • Develop students' ability to justify methods and compare their responses to the responses of their peers.
MA.K12.MTR.5.1:	Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts: • Focus on relevant details within a problem. • Create plans and procedures to logically order events, steps or ideas to solve problems. • Decompose a complex problem into manageable parts. • Relate previously learned concepts to new concepts. • Look for similarities among problems. • Connect solutions of problems to more complicated large-scale situations. **Clarifications:** Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts: • Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts. • Support students to develop generalizations based on the similarities found among problems. • Provide opportunities for students to create plans and procedures to solve problems. • Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.
MA.K12.MTR.6.1:	Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions: • Estimate to discover possible solutions. • Use benchmark quantities to determine if a solution makes sense. • Check calculations when solving problems. • Verify possible solutions by explaining the methods used. • Evaluate results based on the given context. **Clarifications:** Teachers who encourage students to assess the reasonableness of solutions: • Have students estimate or predict solutions prior to solving. • Prompt students to continually ask, "Does this solution make sense? How do you know?" • Reinforce that students check their work as they progress within and after a task. • Strengthen students' ability to verify solutions through justifications.
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: • Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency. **Clarifications:** Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELA.K12.EE.1.1:	Cite evidence to explain and justify reasoning. **Clarifications:** K-1 Students include textual evidence in their oral communication with guidance and support from adults. The evidence can consist of details from the text without naming the text. During 1st grade, students learn how to incorporate the evidence in their writing. 2-3 Students include relevant textual evidence in their written and oral communication. Students should name the text when they refer to it. In 3rd grade, students should use a combination of direct and indirect citations. 4-5 Students continue with previous skills and reference comments made by speakers and peers. Students cite texts that they've directly

	quoted, paraphrased, or used for information. When writing, students will use the form of citation dictated by the instructor or the style guide referenced by the instructor. 6-8 Students continue with previous skills and use a style guide to create a proper citation. 9-12 Students continue with previous skills and should be aware of existing style guides and the ways in which they differ.
ELA.K12.EE.2.1:	Read and comprehend grade-level complex texts proficiently. **Clarifications:** See Text Complexity for grade-level complexity bands and a text complexity rubric.
ELA.K12.EE.3.1:	Make inferences to support comprehension. **Clarifications:** Students will make inferences before the words infer or inference are introduced. Kindergarten students will answer questions like "Why is the girl smiling?" or make predictions about what will happen based on the title page. Students will use the terms and apply them in 2nd grade and beyond.
ELA.K12.EE.4.1:	Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations. **Clarifications:** In kindergarten, students learn to listen to one another respectfully. In grades 1-2, students build upon these skills by justifying what they are thinking. For example: "I think _____ because _____." The collaborative conversations are becoming academic conversations. In grades 3-12, students engage in academic conversations discussing claims and justifying their reasoning, refining and applying skills. Students build on ideas, propel the conversation, and support claims and counterclaims with evidence.
ELA.K12.EE.5.1:	Use the accepted rules governing a specific format to create quality work. **Clarifications:** Students will incorporate skills learned into work products to produce quality work. For students to incorporate these skills appropriately, they must receive instruction. A 3rd grade student creating a poster board display must have instruction in how to effectively present information to do quality work.
ELA.K12.EE.6.1:	Use appropriate voice and tone when speaking or writing. **Clarifications:** In kindergarten and 1st grade, students learn the difference between formal and informal language. For example, the way we talk to our friends differs from the way we speak to adults. In 2nd grade and beyond, students practice appropriate social and academic language to discuss texts.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

General Course Information and Notes

VERSION DESCRIPTION

In Mathematics for College Liberal Arts, instructional time will emphasize five areas: (1) analyzing and applying linear and exponential functions within a real-world context; (2) utilizing geometric concepts to solve real-world problems; (3) extending understanding of probability theory; (4) representing and interpreting univariate and bivariate data and (5) developing understanding of logic and set theory.

All clarifications stated, whether general or specific to Mathematics for College Liberal Arts, are expectations for instruction of that benchmark.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

GENERAL NOTES

Florida's Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards
This course includes Florida's B.E.S.T. ELA Expectations (EE) and Mathematical Thinking and Reasoning Standards (MTRs) for students. Florida educators should intentionally embed these standards within the content and their instruction as applicable. For guidance on the implementation of the EEs and MTRs, please visit cpalms.org/Standards/BEST_Standards.aspx and select the appropriate B.E.S.T. Standards package.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 1207350

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Liberal Arts Mathematics >

Abbreviated Title: MATH FOR COLL LIB ARTS

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Mathematics: Applications and Interpretation 1 (#1209300) 2019 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1209300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Studies/Applications >

Abbreviated Title: IB MATH: APPS/INT 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Mathematics: Applications and Interpretation 2 (#1209305) 2019 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1209305

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Studies/Applications >

Abbreviated Title: IB MATH: APPS/INT 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

International Baccalaureate Mathematics: Applications and Interpretation 3 (#1209310) 2019 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1209310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Mathematical Studies/Applications >

Abbreviated Title: IB MATH: APPS/INT 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Cambridge Pre-AICE Mathematics 1 IGCSE Level (#1209810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 1209810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Algebra >

Abbreviated Title: PRE-AICE MATH 1 IG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

Equivalent Courses

1200310-Algebra 1 Equivalency start year: 2014
1200386-Pre-Advanced Placement Algebra 1 Equivalency start year: 2018

Cambridge Pre-AICE Mathematics 2 IGCSE Level (#1209820) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 1209820

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Geometry

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Geometry >

Abbreviated Title: PRE-AICE MATH 2 IG

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Cambridge Pre-AICE Mathematics 3 IGCSE Level (#1209825) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 1209825

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Algebra >

Abbreviated Title: PRE-AICE MATH 3 IG

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)
Middle Grades Mathematics (Middle Grades 5-9)

Probability & Statistics with Applications Honors (#1210300) 2019 - 2022 (current)

Course Standards

Name	Description
MAFS.912.S-CP.1.1:	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). ★
MAFS.912.S-CP.1.2:	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent. ★
MAFS.912.S-CP.1.3:	Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B. ★
MAFS.912.S-CP.1.4:	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.* ★
MAFS.912.S-CP.1.5:	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.* ★
MAFS.912.S-CP.2.6:	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model. ★
MAFS.912.S-CP.2.7:	Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model. ★
MAFS.912.S-CP.2.8:	Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model. ★
MAFS.912.S-CP.2.9:	Use permutations and combinations to compute probabilities of compound events and solve problems. ★
MAFS.912.S-IC.1.1:	Understand statistics as a process for making inferences about population parameters based on a random sample from that population. ★
MAFS.912.S-IC.1.2:	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model* ★
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.912.S-ID.3.7:	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. ★
MAFS.912.S-ID.3.8:	Compute (using technology) and interpret the correlation coefficient of a linear fit. ★
MAFS.912.S-ID.3.9:	Distinguish between correlation and causation. ★

MAFS.912.S-MD.1.1:	Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions. ★
MAFS.912.S-MD.1.2:	Calculate the expected value of a random variable; interpret it as the mean of the probability distribution. ★
MAFS.912.S-MD.1.3:	Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.* ★
MAFS.912.S-MD.1.4:	Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?* ★
MAFS.912.S-MD.2.5:	Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. ★ a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.* b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*
MAFS.912.S-MD.2.6:	Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). ★
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should

specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1210300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Probablility and Statistics >

Abbreviated Title: PROB STAT W/APPS HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Equivalent Courses

1210320-Advanced Placement Statistics
1210330-Cambridge AICE Mathematics Statistics AS Level

Mathematics for College Statistics (#1210305) 2022 - And Beyond

(current)

Course Standards

Name	Description
MA.912.AR.1.1:	Identify and interpret parts of an equation or expression that represent a quantity in terms of a mathematical or real-world context, including viewing one or more of its parts as a single entity. **Clarifications:** *Clarification 1:* Parts of an expression include factors, terms, constants, coefficients and variables. *Clarification 2:* Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.1.2:	Rearrange equations or formulas to isolate a quantity of interest. **Clarifications:** *Clarification 1*: Instruction includes using formulas for temperature, perimeter, area and volume; using equations for linear (standard, slope-intercept and point-slope forms) and quadratic (standard, factored and vertex forms) functions. *Clarification 2*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.2.5:	Solve and graph mathematical and real-world problems that are modeled with linear functions. Interpret key features and determine constraints in terms of the context. **Clarifications:** *Clarification 1*: Key features are limited to domain, range, intercepts and rate of change. *Clarification 2*: Instruction includes the use of standard form, slope-intercept form and point-slope form. *Clarification 3*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation. *Clarification 4*: Within the Algebra 1 course, notations for domain, range and constraints are limited to inequality and set-builder. *Clarification 5*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.AR.5.7:	Solve and graph mathematical and real-world problems that are modeled with exponential functions. Interpret key features and determine constraints in terms of the context. **Clarifications:** *Clarification 1*: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; constant percent rate of change; end behavior and asymptotes. *Clarification 2*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation. *Clarification 3*: Instruction includes understanding that when the logarithm of the dependent variable is taken and graphed, the exponential function will be transformed into a linear function. *Clarification 4*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.
MA.912.DP.1.1:	Given a set of data, select an appropriate method to represent the data, depending on whether it is numerical or categorical data and on whether it is univariate or bivariate. **Clarifications:** *Clarification 1:* Instruction includes discussions regarding the strengths and weaknesses of each data display. *Clarification 2:* Numerical univariate includes histograms, stem-and-leaf plots, box plots and line plots; numerical bivariate includes scatter plots and line graphs; categorical univariate includes bar charts, circle graphs, line plots, frequency tables and relative frequency tables; and categorical bivariate includes segmented bar charts, joint frequency tables and joint relative frequency tables. *Clarification 3:* Instruction includes the use of appropriate units and labels and, where appropriate, using technology to create data displays.
MA.912.DP.1.2:	Interpret data distributions represented in various ways. State whether the data is numerical or categorical, whether it is univariate or bivariate and interpret the different components and quantities in the display. **Clarifications:** *Clarification 1*: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.
MA.912.DP.1.3:	Explain the difference between correlation and causation in the contexts of both numerical and categorical data.
MA.912.DP.2.1:	For two or more sets of numerical univariate data, calculate and compare the appropriate measures of center and measures of variability, accounting for possible effects of outliers. Interpret any notable features of the shape of the data distribution. **Clarifications:** *Clarification 1*: The measure of center is limited to mean and median. The measure of variation is limited to range, interquartile range, and standard deviation. *Clarification 2*: Shape features include symmetry or skewness and clustering. *Clarification 3*: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.

MA.912.DP.2.4:	Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. Use the model to solve real-world problems in terms of the context of the data. **Clarifications:** *Clarification 1*: Instruction includes fitting a linear function both informally and formally with the use of technology. *Clarification 2*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.
MA.912.DP.2.5:	Given a scatter plot that represents bivariate numerical data, assess the fit of a given linear function by plotting and analyzing residuals. **Clarifications:** *Clarification 1*: Within the Algebra 1 course, instruction includes determining the number of positive and negative residuals; the largest and smallest residuals; and the connection between outliers in the data set and the corresponding residuals.
MA.912.DP.2.6:	Given a scatter plot with a line of fit and residuals, determine the strength and direction of the correlation. Interpret strength and direction within a real-world context. **Clarifications:** *Clarification 1*: Instruction focuses on determining the direction by analyzing the slope and informally determining the strength by analyzing the residuals.
MA.912.DP.2.7:	Compute the correlation coefficient of a linear model using technology. Interpret the strength and direction of the correlation coefficient.
MA.912.DP.2.9:	Fit an exponential function to bivariate numerical data that suggests an exponential association. Use the model to solve real-world problems in terms of the context of the data. **Clarifications:** *Clarification 1*: Instruction focuses on determining whether an exponential model is appropriate by taking the logarithm of the dependent variable using spreadsheets and other technology. *Clarification 2*: Instruction includes determining whether the transformed scatterplot has an appropriate line of best fit, and interpreting the y-intercept and slope of the line of best fit. *Clarification 3*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.
MA.912.DP.3.1:	Construct a two-way frequency table summarizing bivariate categorical data. Interpret joint and marginal frequencies and determine possible associations in terms of a real-world context.
MA.912.DP.3.2:	Given marginal and conditional relative frequencies, construct a two-way relative frequency table summarizing categorical bivariate data. **Clarifications:** *Clarification 1:* Construction includes cases where not all frequencies are given but enough are provided to be able to construct a two-way relative frequency table. *Clarification 2:* Instruction includes the use of a tree diagram when calculating relative frequencies to construct tables.
MA.912.DP.3.5:	Solve real-world problems involving univariate and bivariate categorical data. **Clarifications:** *Clarification 1:* Instruction focuses on the connection to probability. *Clarification 2:* Instruction includes calculating joint relative frequencies or conditional relative frequencies using tree diagrams. Clarification 3: Graphical representations include frequency tables, relative frequency tables, circle graphs and segmented bar graphs.
MA.912.DP.4.1:	Describe events as subsets of a sample space using characteristics, or categories, of the outcomes, or as unions, intersections or complements of other events.
MA.912.DP.4.2:	Determine if events A and B are independent by calculating the product of their probabilities.
MA.912.DP.4.3:	Calculate the conditional probability of two events and interpret the result in terms of its context.
MA.912.DP.4.4:	Interpret the independence of two events using conditional probability.
MA.912.DP.4.5:	Given a two-way table containing data from a population, interpret the joint and marginal relative frequencies as empirical probabilities and the conditional relative frequencies as empirical conditional probabilities. Use those probabilities to determine whether characteristics in the population are approximately independent. **Clarifications:** *Clarification 1*: Instruction includes the connection between mathematical probability and applied statistics.
MA.912.DP.4.6:	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.
MA.912.DP.4.7:	Apply the addition rule for probability, taking into consideration whether the events are mutually exclusive, and interpret the result in terms of the model and its context.
MA.912.DP.4.8:	Apply the general multiplication rule for probability, taking into consideration whether the events are independent, and interpret the result in terms of the context.
MA.912.DP.4.9:	Apply the addition and multiplication rules for counting to solve mathematical and real-world problems, including problems involving probability.
MA.912.DP.4.10:	Given a mathematical or real-world situation, calculate the appropriate permutation or combination.
MA.912.DP.5.1:	Distinguish between a population parameter and a sample statistic.
MA.912.DP.5.2:	Explain how random sampling produces data that is representative of a population.
MA.912.DP.5.3:	Compare and contrast sampling methods. **Clarifications:** *Clarification 1*: Instruction includes understanding the connection between probability and sampling methods. *Clarification 2*: Sampling methods include simple random, stratified, cluster, systematic, judgement, quota and convenience.
MA.912.DP.5.4:	Generate multiple samples or simulated samples of the same size to measure the variation in estimates or predictions.
MA.912.DP.5.5:	Determine if a specific model is consistent within a given process by analyzing the data distribution from a data-generating process.
MA.912.DP.5.6:	Determine the appropriate design, survey, experiment or observational study, based on the purpose. Articulate the types of questions appropriate for each type of design.
	Compare and contrast surveys, experiments and observational studies.

MA.912.DP.5.7:	**Clarifications:** *Clarification 1*: Instruction includes understanding how randomization relates to sample surveys, experiments and observational studies.
MA.912.DP.5.11:	Evaluate reports based on data from diverse media, print and digital resources by interpreting graphs and tables; evaluating data-based arguments; determining whether a valid sampling method was used; or interpreting provided statistics. **Clarifications:** *Clarification 1*: Instruction includes determining whether or not data displays could be misleading.
MA.912.F.1.2:	Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output. **Clarifications:** *Clarification 1*: Problems include simple functions in two-variables, such as f(x,y)=3x-2y. *Clarification 2*: Within the Algebra 1 course, functions are limited to one-variable such as f(x)=3x.
MA.912.F.1.8:	Determine whether a linear, quadratic or exponential function best models a given real-world situation. **Clarifications:** *Clarification 1*: Instruction includes recognizing that linear functions model situations in which a quantity changes by a constant amount per unit interval; that quadratic functions model situations in which a quantity increases to a maximum, then begins to decrease or a quantity decreases to a minimum, then begins to increase; and that exponential functions model situations in which a quantity grows or decays by a constant percent per unit interval. *Clarification 2*: Within this benchmark, the expectation is to identify the type of function from a written description or table.
MA.912.FL.1.1:	Extend previous knowledge of operations of fractions, percentages and decimals to solve real-world problems involving money and business. **Clarifications:** *Clarification 1*: Problems include discounts, markups, simple interest, tax, tips, fees, percent increase, percent decrease and percent error.
MA.912.FL.1.3:	Solve real-world problems involving weighted averages using spreadsheets and other technology.
MA.912.LT.5.4:	Perform the set operations of taking the complement of a set and the union, intersection, difference and product of two sets. **Clarifications:** *Clarification 1*: Instruction includes the connection to probability and the words AND, OR and NOT.
MA.912.LT.5.5:	Explore relationships and patterns and make arguments about relationships between sets using Venn Diagrams.
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others: • Cultivate a community of growth mindset learners. • Foster perseverance in students by choosing tasks that are challenging. • Develop students' ability to analyze and problem solve. • Recognize students' effort when solving challenging problems.
MA.K12.MTR.2.1:	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: • Build understanding through modeling and using manipulatives. • Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations. • Progress from modeling problems with objects and drawings to using algorithms and equations. • Express connections between concepts and representations. • Choose a representation based on the given context or purpose. **Clarifications:** Teachers who encourage students to demonstrate understanding by representing problems in multiple ways: • Help students make connections between concepts and representations. • Provide opportunities for students to use manipulatives when investigating concepts. • Guide students from concrete to pictorial to abstract representations as understanding progresses. • Show students that various representations can have different purposes and can be useful in different situations.
MA.K12.MTR.3.1:	Complete tasks with mathematical fluency. Mathematicians who complete tasks with mathematical fluency: • Select efficient and appropriate methods for solving problems within the given context. • Maintain flexibility and accuracy while performing procedures and mental calculations. • Complete tasks accurately and with confidence. • Adapt procedures to apply them to a new context. • Use feedback to improve efficiency when performing calculations. **Clarifications:** Teachers who encourage students to complete tasks with mathematical fluency: • Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately. • Offer multiple opportunities for students to practice efficient and generalizable methods. • Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.
	Engage in discussions that reflect on the mathematical thinking of self and others. Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others: • Communicate mathematical ideas, vocabulary and methods effectively.

MA.K12.MTR.4.1:	• Analyze the mathematical thinking of others. • Compare the efficiency of a method to those expressed by others. • Recognize errors and suggest how to correctly solve the task. • Justify results by explaining methods and processes. • Construct possible arguments based on evidence. **Clarifications:** Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others: • Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning. • Create opportunities for students to discuss their thinking with peers. • Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods. • Develop students' ability to justify methods and compare their responses to the responses of their peers.
MA.K12.MTR.5.1:	Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts: • Focus on relevant details within a problem. • Create plans and procedures to logically order events, steps or ideas to solve problems. • Decompose a complex problem into manageable parts. • Relate previously learned concepts to new concepts. • Look for similarities among problems. • Connect solutions of problems to more complicated large-scale situations. **Clarifications:** Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts: • Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts. • Support students to develop generalizations based on the similarities found among problems. • Provide opportunities for students to create plans and procedures to solve problems. • Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.
MA.K12.MTR.6.1:	Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions: • Estimate to discover possible solutions. • Use benchmark quantities to determine if a solution makes sense. • Check calculations when solving problems. • Verify possible solutions by explaining the methods used. • Evaluate results based on the given context. **Clarifications:** Teachers who encourage students to assess the reasonableness of solutions: • Have students estimate or predict solutions prior to solving. • Prompt students to continually ask, "Does this solution make sense? How do you know?" • Reinforce that students check their work as they progress within and after a task. • Strengthen students' ability to verify solutions through justifications.
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: • Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency. **Clarifications:** Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELA.K12.EE.1.1:	Cite evidence to explain and justify reasoning. **Clarifications:** K-1 Students include textual evidence in their oral communication with guidance and support from adults. The evidence can consist of details from the text without naming the text. During 1st grade, students learn how to incorporate the evidence in their writing. 2-3 Students include relevant textual evidence in their written and oral communication. Students should name the text when they refer to it. In 3rd grade, students should use a combination of direct and indirect citations. 4-5 Students continue with previous skills and reference comments made by speakers and peers. Students cite texts that they've directly quoted, paraphrased, or used for information. When writing, students will use the form of citation dictated by the instructor or the style guide referenced by the instructor. 6-8 Students continue with previous skills and use a style guide to create a proper citation. 9-12 Students continue with previous skills and should be aware of existing style guides and the ways in which they differ.
ELA.K12.EE.2.1:	Read and comprehend grade-level complex texts proficiently. **Clarifications:** See Text Complexity for grade-level complexity bands and a text complexity rubric.
	Make inferences to support comprehension.

ELA.K12.EE.3.1:	**Clarifications:** Students will make inferences before the words infer or inference are introduced. Kindergarten students will answer questions like "Why is the girl smiling?" or make predictions about what will happen based on the title page. Students will use the terms and apply them in 2nd grade and beyond.
ELA.K12.EE.4.1:	Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations. **Clarifications:** In kindergarten, students learn to listen to one another respectfully. In grades 1-2, students build upon these skills by justifying what they are thinking. For example: "I think _____ because _____." The collaborative conversations are becoming academic conversations. In grades 3-12, students engage in academic conversations discussing claims and justifying their reasoning, refining and applying skills. Students build on ideas, propel the conversation, and support claims and counterclaims with evidence.
ELA.K12.EE.5.1:	Use the accepted rules governing a specific format to create quality work. **Clarifications:** Students will incorporate skills learned into work products to produce quality work. For students to incorporate these skills appropriately, they must receive instruction. A 3rd grade student creating a poster board display must have instruction in how to effectively present information to do quality work.
ELA.K12.EE.6.1:	Use appropriate voice and tone when speaking or writing. **Clarifications:** In kindergarten and 1st grade, students learn the difference between formal and informal language. For example, the way we talk to our friends differs from the way we speak to adults. In 2nd grade and beyond, students practice appropriate social and academic language to discuss texts.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

General Course Information and Notes

VERSION DESCRIPTION

In Mathematics for College Statistics, instructional time will emphasize four areas: (1) analyzing and applying linear and exponential functions within the context of statistics; (2) extending understanding of probability using data and various representations, including two-way tables and Venn Diagrams; (3) representing and interpreting univariate and bivariate categorical and numerical data and (4) determining the appropriateness of different types of statistical studies.

All clarifications stated, whether general or specific to Mathematics for College Statistics, are expectations for instruction of that benchmark.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

GENERAL NOTES

Florida's Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards
This course includes Florida's B.E.S.T. ELA Expectations (EE) and Mathematical Thinking and Reasoning Standards (MTRs) for students. Florida educators should intentionally embed these standards within the content and their instruction as applicable. For guidance on the implementation of the EEs and MTRs, please visit cpalms.org/Standards/BEST_Standards.aspx and select the appropriate B.E.S.T. Standards package.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1210305

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Probablility and Statistics >

Abbreviated Title: MATH FOR COLL STATS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Advanced Placement Statistics (#1210320) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 1210320

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Probablility and Statistics >

Abbreviated Title: AP STAT

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Equivalent Courses

1210300-Probability and Statistics Honors
1210330-Cambridge AICE Mathematics Statistics AS Level

Cambridge AICE Mathematics Statistics AS Level (#1210330) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 1210330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Probablility and Statistics >

Abbreviated Title: AICE MATH STAT AS

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Equivalent Courses

1210300-Probability and Statistics Honors
1210320-Advanced Placement Statistics

Trigonometry Honors (#1211300) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.912.F-TF.1.1:	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle; Convert between degrees and radians.
MAFS.912.F-TF.1.2:	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
MAFS.912.F-TF.1.3:	Use special triangles to determine geometrically the values of sine, cosine, tangent for π/3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π–x, π+x, and 2π–x in terms of their values for x, where x is any real number.
MAFS.912.F-TF.1.4:	Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
MAFS.912.F-TF.2.5:	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. ★
MAFS.912.F-TF.2.6:	Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
MAFS.912.F-TF.2.7:	Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context. ★
MAFS.912.F-TF.3.8:	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.
MAFS.912.F-TF.3.9:	Prove the addition and subtraction, half-angle, and double-angle formulas for sine, cosine, and tangent and use these formulas to solve problems.
MAFS.912.G-SRT.3.7:	Explain and use the relationship between the sine and cosine of complementary angles.
MAFS.912.G-SRT.3.8:	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★
MAFS.912.G-SRT.4.9:	Derive the formula A = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
MAFS.912.G-SRT.4.10:	Prove the Laws of Sines and Cosines and use them to solve problems.
MAFS.912.N-CN.1.3:	Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.
MAFS.912.N-CN.2.4:	Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
MAFS.912.N-CN.2.5:	Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-1 + \sqrt{3}\, i)^3 = 8$ because $(-1 + \sqrt{3}\, i)$ has modulus 2 and argument 120°.
MAFS.912.N-CN.2.6:	Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.
MAFS.912.N-VM.1.1:	Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\boldsymbol{v}$, $\lvert\boldsymbol{v}\rvert$, $\lvert\lvert\mathbf{v}\rvert\rvert$, $\boldsymbol{v}$).
MAFS.912.N-VM.1.2:	Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.N-VM.2.4:	Add and subtract vectors. a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes. b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum. c. Understand vector subtraction $\mathbf{v} - \mathbf{w}$ as $\mathbf{v} + (-\mathbf{w})$, where $-\mathbf{w}$ is the additive inverse of $\mathbf{w}$, with the same magnitude as $\mathbf{w}$ and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.
MAFS.912.N-VM.2.5:	Multiply a vector by a scalar. a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$. b. Compute the magnitude of a scalar multiple $c\mathbf{v}$ using $\lvert\lvert c\mathbf{v}\rvert\rvert = \lvert c\rvert v$. Compute the direction of $c\mathbf{v}$ knowing that when $\lvert c\rvert v \neq 0$, the direction of $c\mathbf{v}$ is either along $\mathbf{v}$ (for $c > 0$) or against $\mathbf{v}$ (for $c < 0$).
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
	Construct viable arguments and critique the reasoning of others.

MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.

LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1211300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Trigonometry > **Abbreviated Title:** TRIG HON

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Attributes:
- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Discrete Mathematics Honors (#1212300) 2020 - And Beyond (current)

Course Standards

Name	Description
MA.912.AR.9.6:	Given a real-world context, represent constraints as systems of linear equations or inequalities. Interpret solutions to problems as viable or non-viable options. **Clarifications:** *Clarification 1*: Instruction focuses on analyzing a given function that models a real-world situation and writing constraints that are represented as linear equations or linear inequalities.
MA.912.AR.9.8:	Solve real-world problems involving linear programming in two variables.
MA.912.AR.10.1:	Given a mathematical or real-world context, write and solve problems involving arithmetic sequences.
MA.912.AR.10.2:	Given a mathematical or real-world context, write and solve problems involving geometric sequences.
MA.912.AR.10.5:	Given a mathematical or real-world context, write a sequence using function notation, defined explicitly or recursively, to represent relationships between quantities from a written description.
MA.912.AR.10.6:	Given a mathematical or real-world context, find the domain of a given sequence defined recursively or explicitly.
MA.912.DP.4.1:	Describe events as subsets of a sample space using characteristics, or categories, of the outcomes, or as unions, intersections or complements of other events.
MA.912.DP.4.9:	Apply the addition and multiplication rules for counting to solve mathematical and real-world problems, including problems involving probability.
MA.912.DP.4.10:	Given a mathematical or real-world situation, calculate the appropriate permutation or combination.
MA.912.GR.2.4:	Determine symmetries of reflection, symmetries of rotation and symmetries of translation of a geometric figure. **Clarifications:** *Clarification 1*: Instruction includes determining the order of each symmetry. *Clarification 2*: Instruction includes the connection between tessellations of the plane and symmetries of translations.
MA.912.LT.1.1:	Apply recursive and iterative thinking to solve problems.
MA.912.LT.1.2:	Solve problems involving recurrence relations. **Clarifications:** *Clarification 1*: Instruction includes finding explicit or recursive equations for recursively defined sequences. *Clarification 2*: Problems include fractals, the Fibonacci sequence, growth models and finite difference.
MA.912.LT.2.1:	Define and explain the basic concepts of Graph Theory. **Clarifications:** *Clarification 1*: Basic concepts include vertex, edge, directed edge, undirected edge, path, vertex degree, directed graph, undirected graph, tree, bipartite graph, circuit, connectedness and planarity.
MA.912.LT.2.2:	Solve problems involving paths in graphs. **Clarifications:** *Clarification 1*: Instruction includes simple paths and circuits; Hamiltonian paths and circuits; and Eulerian paths and circuits.
MA.912.LT.2.3:	Solve scheduling problems using critical path analysis and Gantt charts. Create a schedule using critical path analysis.
MA.912.LT.2.4:	Apply graph coloring techniques to solve problems. **Clarifications:** *Clarification 1*: Problems include map coloring and committee assignments.
MA.912.LT.2.5:	Apply spanning trees, rooted trees, binary trees and decision trees to solve problems. **Clarifications:** *Clarification 1*: Instruction includes the use of technology to determine the number of possible solutions and generating solutions when a feasible number of possible solutions exists.
MA.912.LT.3.1:	Define and explain the basic concepts of Election Theory and voting. **Clarifications:** *Clarification 1*: Basic concepts include approval and preference voting, plurality, majority, runoff, sequential runoff, Borda count, Condorcet and other fairness criteria, dummy voters and coalition.
MA.912.LT.3.2:	Analyze election data using election theory techniques. Explain how Arrow's Impossibility Theorem may be related to the fairness of the outcome of the election.
MA.912.LT.3.3:	Decide voting power within a group using weighted voting techniques. Provide real-world examples of weighted voting and its pros and cons.
MA.912.LT.3.4:	Solve problems using fair division and apportionment techniques. **Clarifications:** *Clarification 1*: Problems include fair division among people with different preferences, fairly dividing an inheritance that includes indivisible goods, salary caps in sports and allocation of representatives to Congress.
MA.912.LT.4.1:	Translate propositional statements into logical arguments using propositional variables and logical connectives.
MA.912.LT.4.2:	Determine truth values of simple and compound statements using truth tables.
MA.912.LT.4.3:	Identify and accurately interpret "if...then," "if and only if," "all" and "not" statements. Find the converse, inverse and contrapositive of a statement. **Clarifications:** *Clarification 1:* Instruction focuses on recognizing the relationships between an "if...then" statement and the converse, inverse and contrapositive of that statement.

	Clarification 2: Within the Geometry course, instruction focuses on the connection to proofs within the course.
MA.912.LT.4.4:	Represent logic operations, such as AND, OR, NOT, NOR, and XOR, using logical symbolism to solve problems.
MA.912.LT.4.5:	Determine whether two propositions are logically equivalent.
MA.912.LT.4.6:	Apply methods of direct and indirect proof and determine whether a logical argument is valid.
MA.912.LT.4.7:	Identify and give examples of undefined terms; axioms; theorems; proofs, including proofs using mathematical induction; and inductive and deductive reasoning.
MA.912.LT.4.8:	Construct proofs, including proofs by contradiction.
MA.912.LT.4.9:	Construct logical arguments using laws of detachment, syllogism, tautology, contradiction and Euler Diagrams.
MA.912.LT.4.10:	Judge the validity of arguments and give counterexamples to disprove statements. **Clarifications:** *Clarification 1:* Within the Geometry course, instruction focuses on the connection to proofs within the course.
MA.912.LT.5.1:	Given two sets, determine whether the two sets are equivalent and whether one set is a subset of another. Given one set, determine its power set.
MA.912.LT.5.2:	Given a relation on two sets, determine whether the relation is a function, determine the inverse of the relation if it exists and identify if the relation is bijective.
MA.912.LT.5.3:	Partition a set into disjoint subsets and determine an equivalence class given the equivalence relation on a set.
MA.912.LT.5.4:	Perform the set operations of taking the complement of a set and the union, intersection, difference and product of two sets. **Clarifications:** *Clarification 1*: Instruction includes the connection to probability and the words AND, OR and NOT.
MA.912.LT.5.5:	Explore relationships and patterns and make arguments about relationships between sets using Venn Diagrams.
MA.912.LT.5.6:	Prove set relations, including DeMorgan's Laws and equivalence relations.
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: • Analyze the problem in a way that makes sense given the task. • Ask questions that will help with solving the task. • Build perseverance by modifying methods as needed while solving a challenging task. • Stay engaged and maintain a positive mindset when working to solve tasks. • Help and support each other when attempting a new method or approach. **Clarifications:** Teachers who encourage students to participate actively in effortful learning both individually and with others: • Cultivate a community of growth mindset learners. • Foster perseverance in students by choosing tasks that are challenging. • Develop students' ability to analyze and problem solve. • Recognize students' effort when solving challenging problems.
MA.K12.MTR.2.1:	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: • Build understanding through modeling and using manipulatives. • Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations. • Progress from modeling problems with objects and drawings to using algorithms and equations. • Express connections between concepts and representations. • Choose a representation based on the given context or purpose. **Clarifications:** Teachers who encourage students to demonstrate understanding by representing problems in multiple ways: • Help students make connections between concepts and representations. • Provide opportunities for students to use manipulatives when investigating concepts. • Guide students from concrete to pictorial to abstract representations as understanding progresses. • Show students that various representations can have different purposes and can be useful in different situations.
MA.K12.MTR.3.1:	Complete tasks with mathematical fluency. Mathematicians who complete tasks with mathematical fluency: • Select efficient and appropriate methods for solving problems within the given context. • Maintain flexibility and accuracy while performing procedures and mental calculations. • Complete tasks accurately and with confidence. • Adapt procedures to apply them to a new context. • Use feedback to improve efficiency when performing calculations. **Clarifications:** Teachers who encourage students to complete tasks with mathematical fluency: • Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately. • Offer multiple opportunities for students to practice efficient and generalizable methods. • Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.
MA.K12.MTR.4.1:	Engage in discussions that reflect on the mathematical thinking of self and others. Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others: • Communicate mathematical ideas, vocabulary and methods effectively. • Analyze the mathematical thinking of others. • Compare the efficiency of a method to those expressed by others. • Recognize errors and suggest how to correctly solve the task. • Justify results by explaining methods and processes. • Construct possible arguments based on evidence.

	Clarifications: Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others: • Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning. • Create opportunities for students to discuss their thinking with peers. • Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods. • Develop students' ability to justify methods and compare their responses to the responses of their peers.
MA.K12.MTR.5.1:	Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts: • Focus on relevant details within a problem. • Create plans and procedures to logically order events, steps or ideas to solve problems. • Decompose a complex problem into manageable parts. • Relate previously learned concepts to new concepts. • Look for similarities among problems. • Connect solutions of problems to more complicated large-scale situations. **Clarifications:** Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts: • Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts. • Support students to develop generalizations based on the similarities found among problems. • Provide opportunities for students to create plans and procedures to solve problems. • Develop students' ability to construct relationships between their current understanding and more sophisticated ways of thinking.
MA.K12.MTR.6.1:	Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions: • Estimate to discover possible solutions. • Use benchmark quantities to determine if a solution makes sense. • Check calculations when solving problems. • Verify possible solutions by explaining the methods used. • Evaluate results based on the given context. **Clarifications:** Teachers who encourage students to assess the reasonableness of solutions: • Have students estimate or predict solutions prior to solving. • Prompt students to continually ask, "Does this solution make sense? How do you know?" • Reinforce that students check their work as they progress within and after a task. • Strengthen students' ability to verify solutions through justifications.
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: • Connect mathematical concepts to everyday experiences. • Use models and methods to understand, represent and solve problems. • Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency. **Clarifications:** Teachers who encourage students to apply mathematics to real-world contexts: • Provide opportunities for students to create models, both concrete and abstract, and perform investigations. • Challenge students to question the accuracy of their models and methods. • Support students as they validate conclusions by comparing them to the given situation. • Indicate how various concepts can be applied to other disciplines.
ELA.K12.EE.1.1:	Cite evidence to explain and justify reasoning. **Clarifications:** K-1 Students include textual evidence in their oral communication with guidance and support from adults. The evidence can consist of details from the text without naming the text. During 1st grade, students learn how to incorporate the evidence in their writing. 2-3 Students include relevant textual evidence in their written and oral communication. Students should name the text when they refer to it. In 3rd grade, students should use a combination of direct and indirect citations. 4-5 Students continue with previous skills and reference comments made by speakers and peers. Students cite texts that they've directly quoted, paraphrased, or used for information. When writing, students will use the form of citation dictated by the instructor or the style guide referenced by the instructor. 6-8 Students continue with previous skills and use a style guide to create a proper citation. 9-12 Students continue with previous skills and should be aware of existing style guides and the ways in which they differ.
ELA.K12.EE.2.1:	Read and comprehend grade-level complex texts proficiently. **Clarifications:** See Text Complexity for grade-level complexity bands and a text complexity rubric.
ELA.K12.EE.3.1:	Make inferences to support comprehension. **Clarifications:** Students will make inferences before the words infer or inference are introduced. Kindergarten students will answer questions like "Why is the girl smiling?" or make predictions about what will happen based on the title page. Students will use the terms and apply them in 2nd grade and beyond.
	Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations.

ELA.K12.EE.4.1:	**Clarifications:** In kindergarten, students learn to listen to one another respectfully. In grades 1-2, students build upon these skills by justifying what they are thinking. For example: "I think _____ because _____." The collaborative conversations are becoming academic conversations. In grades 3-12, students engage in academic conversations discussing claims and justifying their reasoning, refining and applying skills. Students build on ideas, propel the conversation, and support claims and counterclaims with evidence.
ELA.K12.EE.5.1:	Use the accepted rules governing a specific format to create quality work. **Clarifications:** Students will incorporate skills learned into work products to produce quality work. For students to incorporate these skills appropriately, they must receive instruction. A 3rd grade student creating a poster board display must have instruction in how to effectively present information to do quality work.
ELA.K12.EE.6.1:	Use appropriate voice and tone when speaking or writing. **Clarifications:** In kindergarten and 1st grade, students learn the difference between formal and informal language. For example, the way we talk to our friends differs from the way we speak to adults. In 2nd grade and beyond, students practice appropriate social and academic language to discuss texts.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

General Course Information and Notes

VERSION DESCRIPTION

In Discrete Mathematics Honors, instructional time will emphasize five areas: (1) extending understanding of sequences and patterns to include Fibonacci sequences and tessellations; (2) applying probability and combinatorics; (3) extending understanding of systems of equations and inequalities to solve linear programming problems; (4) developing an understanding of Graph Theory, Election Theory and Set Theory and (5) developing an understanding of propositional logic, arguments and methods of proof.

All clarifications stated, whether general or specific to Discrete Mathematics Honors, are expectations for instruction of that benchmark.

Curricular content for all subjects must integrate critical-thinking, problem-solving, and workforce-literacy skills; communication, reading, and writing skills; mathematics skills; collaboration skills; contextual and applied-learning skills; technology-literacy skills; information and media-literacy skills; and civic-engagement skills.

GENERAL NOTES

Honors and Accelerated Level Course Note: Accelerated courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 1212300

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Discrete Mathematics >

Abbreviated Title: DISCRETE MATH HONORS

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Level: 3

Educator Certifications

Mathematics (Grades 6-12)

Advanced Topics in Mathematics (#1298310) 2015 - And Beyond (current)

Course Standards

Name	Description
MAFS.912.A-REI.3.8:	Represent a system of linear equations as a single matrix equation in a vector variable.
MAFS.912.A-REI.3.9:	Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater).
MAFS.912.F-BF.1.1:	Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. Compose functions. *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*
MAFS.912.F-BF.1.2:	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. ★
MAFS.912.F-BF.2.3:	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
MAFS.912.F-BF.2.4:	Find inverse functions. a. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. *For example, f(x) =2 x^3 or f(x) = (x+1)/(x–1) for x ≠ 1.* b. Verify by composition that one function is the inverse of another. c. Read values of an inverse function from a graph or a table, given that the function has an inverse. d. Produce an invertible function from a non-invertible function by restricting the domain.
MAFS.912.F-BF.2.5:	Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.F-IF.3.8:	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*
MAFS.912.F-IF.3.9:	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*
MAFS.912.F-TF.1.3:	Use special triangles to determine geometrically the values of sine, cosine, tangent for π/3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π–x, π+x, and 2π–x in terms of their values for x, where x is any real number.
MAFS.912.F-TF.1.4:	Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
MAFS.912.F-TF.2.5:	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. ★
MAFS.912.F-TF.2.6:	Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
MAFS.912.F-TF.2.7:	Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context. ★
MAFS.912.F-TF.3.8:	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.
MAFS.912.F-TF.3.9:	Prove the addition and subtraction, half-angle, and double-angle formulas for sine, cosine, and tangent and use these formulas to solve problems.
MAFS.912.G-GMD.1.1:	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
MAFS.912.G-GMD.1.2:	Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
MAFS.912.G-GPE.1.1:	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
MAFS.912.G-GPE.1.2:	Derive the equation of a parabola given a focus and directrix.
MAFS.912.G-GPE.1.3:	Derive the equations of ellipses and hyperbolas given the foci and directrices.
MAFS.912.N-CN.1.3:	Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.
MAFS.912.N-CN.2.4:	Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.

MAFS.912.N-CN.2.5:	Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-1 + \sqrt{3}\ i)^3 = 8$ because $(-1 + \sqrt{3}\ i)$ has modulus 2 and argument 120°.
MAFS.912.N-CN.2.6:	Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.
MAFS.912.N-CN.3.7:	Solve quadratic equations with real coefficients that have complex solutions.
MAFS.912.N-CN.3.8:	Extend polynomial identities to the complex numbers. *For example, rewrite $x^2 + 4$ as $(x + 2i)(x – 2i)$.*
MAFS.912.N-CN.3.9:	Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.
MAFS.912.N-VM.3.6:	Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
MAFS.912.N-VM.3.7:	Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
MAFS.912.N-VM.3.8:	Add, subtract, and multiply matrices of appropriate dimensions.
MAFS.912.N-VM.3.9:	Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
MAFS.912.N-VM.3.10:	Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
MAFS.912.N-VM.3.11:	Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.
MAFS.912.N-VM.3.12:	Work with 2×2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.
MAFS.912.S-CP.2.6:	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model. ★
MAFS.912.S-CP.2.7:	Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model. ★
MAFS.912.S-CP.2.8:	Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model. ★
MAFS.912.S-CP.2.9:	Use permutations and combinations to compute probabilities of compound events and solve problems. ★
MAFS.912.S-MD.1.1:	Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions. ★
MAFS.912.S-MD.1.2:	Calculate the expected value of a random variable; interpret it as the mean of the probability distribution. ★
MAFS.912.S-MD.1.3:	Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value*. For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.* ★
MAFS.912.S-MD.1.4:	Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?* ★
MAFS.912.S-MD.2.5:	Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. ★ a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.* b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*
MAFS.912.S-MD.2.6:	Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). ★
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional

MAFS.K12.MP.4.1:	reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10

LAFS.910.SL.1.1:	topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 1298310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Mathematics > **SubSubject:** Liberal Arts Mathematics > **Abbreviated Title:** ADV TOPICS IN MATH

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Mathematics

Educator Certifications

Mathematics (Grades 6-12)

Foundational Skills in Mathematics K-2 (#5012005) 2019 - 2022

(current)

Course Standards

Name	Description
MAFS.1.G.1.1:	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
MAFS.1.G.1.2:	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
MAFS.1.G.1.3:	Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
MAFS.1.MD.1.1:	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
MAFS.1.MD.1.a:	Understand how to use a ruler to measure length to the nearest inch. a. Recognize that the ruler is a tool that can be used to measure the attribute of length. b. Understand the importance of the zero point and end point and that the length measure is the span between two points. c. Recognize that the units marked on a ruler have equal length intervals and fit together with no gaps or overlaps. These equal interval distances can be counted to determine the overall length of an object.
MAFS.1.MD.2.3:	Tell and write time in hours and half-hours using analog and digital clocks.
MAFS.1.MD.2.a:	Identify and combine values of money in cents up to one dollar working with a single unit of currency[1]. a. Identify the value of coins (pennies, nickels, dimes, quarters). b. Compute the value of combinations of coins (pennies and/or dimes). c. Relate the value of pennies, dimes, and quarters to the dollar (e.g., There are 100 pennies *or* ten dimes *or* four quarters in one dollar.) ([1]Students are not expected to understand the decimal notation for combinations of dollars and cents.)
MAFS.1.MD.3.4:	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
MAFS.1.NBT.1.1:	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
MAFS.1.NBT.2.2:	Understand that the two digits of a two-digit number represent amounts of tens and ones. a. 10 can be thought of as a bundle of ten ones — called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). d. Decompose two-digit numbers in multiple ways (e.g., 64 can be decomposed into 6 tens and 4 ones or into 5 tens and 14 ones).
MAFS.1.NBT.2.3:	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
MAFS.1.NBT.3.4:	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
MAFS.1.NBT.3.5:	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
MAFS.1.NBT.3.6:	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
MAFS.1.OA.1.1:	Use addition and subtraction within 20 to solve word problems[1] involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem ([1]Students are not required to independently read the word problems.)
MAFS.1.OA.1.2:	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
MAFS.1.OA.2.3:	Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*
MAFS.1.OA.2.4:	Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*
MAFS.1.OA.3.5:	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
MAFS.1.OA.3.6:	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).
MAFS.1.OA.4.7:	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*
MAFS.1.OA.4.8:	Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = [] – 3, 6 + 6 = [].*

MAFS.2.G.1.1:	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
MAFS.2.G.1.2:	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
MAFS.2.G.1.3:	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves, thirds, half of, a third of,* etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
MAFS.2.MD.1.1:	Measure the length of an object to the nearest inch, foot, centimeter, or meter by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
MAFS.2.MD.1.2:	Describe the inverse relationship between the size of a unit and number of units needed to measure a given object. *Example: Suppose the perimeter of a room is lined with one-foot rulers. Now, suppose we want to line it with yardsticks instead of rulers. Will we need more or fewer yardsticks than rulers to do the job? Explain your answer.*
MAFS.2.MD.1.3:	Estimate lengths using units of inches, feet, yards, centimeters, and meters.
MAFS.2.MD.1.4:	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
MAFS.2.MD.2.5:	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
MAFS.2.MD.2.6:	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.
MAFS.2.MD.3.7:	Tell and write time from analog and digital clocks to the nearest five minutes.
MAFS.2.MD.3.8:	Solve one- and two-step word problems involving dollar bills (singles, fives, tens, twenties, and hundreds) or coins (quarters, dimes, nickels, and pennies) using $ and ¢ symbols appropriately. Word problems may involve addition, subtraction, and equal groups situations[1]. *Example: The cash register shows that the total for your purchase is 59¢. You gave the cashier three quarters. How much change should you receive from the cashier?* a. Identify the value of coins and paper currency. b. Compute the value of any combination of coins within one dollar. c. Compute the value of any combinations of dollars (e.g., If you have three ten-dollar bills, one five-dollar bill, and two one-dollar bills, how much money do you have?). d. Relate the value of pennies, nickels, dimes, and quarters to other coins and to the dollar (e.g., There are five nickels in one quarter. There are two nickels in one dime. There are two and a half dimes in one quarter. There are twenty nickels in one dollar). ([1]See glossary Table 1)
MAFS.2.MD.4.9:	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
MAFS.2.MD.4.10:	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
MAFS.2.NBT.1.1:	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
MAFS.2.NBT.1.2:	Count within 1000; skip-count by 5s, 10s, and 100s.
MAFS.2.NBT.1.3:	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
MAFS.2.NBT.1.4:	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
MAFS.2.NBT.2.5:	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
MAFS.2.NBT.2.6:	Add up to four two-digit numbers using strategies based on place value and properties of operations.
MAFS.2.NBT.2.7:	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
MAFS.2.NBT.2.8:	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
MAFS.2.NBT.2.9:	Explain why addition and subtraction strategies work, using place value and the properties of operations.
MAFS.2.OA.1.1:	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
MAFS.2.OA.1.a:	Determine the unknown whole number in an equation relating four or more whole numbers. For example, determine the unknown number that makes the equation true in the equations 37 + 10 + 10 = _____ + 18, ? − 6 = 13 − 4, and 15 − 9 = 6 + ☐.
MAFS.2.OA.2.2:	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
MAFS.2.OA.3.3:	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
MAFS.2.OA.3.4:	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
MAFS.K.CC.1.1:	Count to 100 by ones and by tens.
MAFS.K.CC.1.2:	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
MAFS.K.CC.1.3:	Read and write numerals from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).
MAFS.K.CC.2.4:	Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.
MAFS.K.CC.2.5:	Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

MAFS.K.CC.3.6:	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
MAFS.K.CC.3.7:	Compare two numbers between 1 and 10 presented as written numerals.
MAFS.K.G.1.1:	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind, and next to.*
MAFS.K.G.1.2:	Correctly name shapes regardless of their orientations or overall size.
MAFS.K.G.1.3:	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
MAFS.K.G.2.4:	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
MAFS.K.G.2.5:	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
MAFS.K.G.2.6:	Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*
MAFS.K.MD.1.1:	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
MAFS.K.MD.1.2:	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*
MAFS.K.MD.1.a:	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*
MAFS.K.MD.2.3:	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
MAFS.K.NBT.1.1:	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
MAFS.K.OA.1.1:	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
MAFS.K.OA.1.2:	Solve addition and subtraction word problems[1], and add and subtract within 10, e.g., by using objects or drawings to represent the problem ([1]Students are not required to independently read the word problems.)
MAFS.K.OA.1.4:	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
MAFS.K.OA.1.5:	Fluently add and subtract within 5.
MAFS.K.OA.1.a:	Use addition and subtraction within 10 to solve word problems involving both addends unknown, e.g., by using objects, drawings, and equations with symbols for the unknown numbers to represent the problem. (Students are not required to independently read the word problems.)
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper,

MAFS.K12.MP.5.1:	concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

General Course Information and Notes

GENERAL NOTES

This course supports students who need additional instruction in foundational mathematics skills as it relates to core instruction. Instruction will use explicit, systematic, and sequential approaches to mathematics instruction addressing all domains including number sense, algebraic thinking, geometry, measurement and statistical thinking. Teachers will use the listed standards that correspond to each students' needs.

Effective instruction matches instruction to the need of the students in the group and provides multiple opportunities to practice the skill and receive feedback. The additional time allotted for this course is in addition to core instruction. The intervention includes materials and strategies designed to supplement core instruction.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Language Arts. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade-level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/la.pdf

GENERAL INFORMATION

Course Number: 5012005

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >
Abbreviated Title: FDN SKILLS MATH K-2
Course Length: Multiple (M) - Course length can vary
Course Attributes:
- Class Size Core Required

Course Level: 1

Course Status: Course Approved

Grade Level(s): K,1,2

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)
Early Childhood Education (Early Childhood)
Mathematics (Elementary Grades 1-6)

Foundational Skills in Mathematics 3-5 (#5012015) 2019 - 2022

(current)

Course Standards

Name	Description
MAFS.3.G.1.1:	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
MAFS.3.G.1.2:	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*
MAFS.3.MD.1.1:	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
MAFS.3.MD.1.2:	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Continuous measurement quantities such as liquid volume, mass, and so on are an important context for fraction arithmetic (cf. 4.NF.2.4c, 5.NF.2.7c, 5.NF.2.3). In grade 3, students begin to get a feel for continuous measurement quantities and solve whole- number problems involving such quantities.
MAFS.3.MD.2.3:	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
MAFS.3.MD.2.4:	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
MAFS.3.MD.3.5:	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.
MAFS.3.MD.3.6:	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
MAFS.3.MD.3.7:	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Area is a major concept within measurement, and area models must function as a support for multiplicative reasoning in grade 3 and beyond.
MAFS.3.MD.4.8:	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
MAFS.3.NBT.1.1:	Use place value understanding to round whole numbers to the nearest 10 or 100.
MAFS.3.NBT.1.2:	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **Clarifications:** Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. (Although 3.OA.3.7 and 3.NBT.1.2 are both fluency standards, these two standards do not represent equal investments of time in grade 3. Note that students in grade 2 were already adding and subtracting within 1000, just not fluently. That makes 3.NBT.1.2 a relatively small and incremental expectation. By contrast, multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.3.7 with understanding is a major portion of students' work in grade 3.)
MAFS.3.NBT.1.3:	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.
MAFS.3.NF.1.1:	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts.

	Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction *a/b* on a number line diagram by marking off *a* lengths *1/b* from 0. Recognize that the resulting interval has size *a/b* and that its endpoint locates the number *a/b* on the number line.
MAFS.3.NF.1.2:	**Clarifications:** **Example of Opportunities for In-Depth Focus** Developing an understanding of fractions as numbers is essential for future work with the number system. It is critical that students at this grade are able to place fractions on a number line diagram and understand them as a related component of their ever- expanding number system. **Fluency Expectations or Examples of Culminating Standards** Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. 3.NBT.1.2 a relatively small and incremental expectation.
MAFS.3.NF.1.3:	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
MAFS.3.OA.1.1:	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.2:	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.3:	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.4:	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations* 8 × ? = 48, 5 = [] ÷ 3, 6 × 6 = ?. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.2.5:	Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*
MAFS.3.OA.2.6:	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*
MAFS.3.OA.3.7:	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently multiply and divide within 100. By the end of grade 3, they know all products of two one-digit numbers from memory. Multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.3.7 with understanding is a major portion of students' work in grade 3. **Examples of Opportunities for In-Depth Focus** Finding single-digit products and related quotients is a required fluency for grade 3. Reaching fluency will take much of the year for many students. These skills and the understandings that support them are crucial; students will rely on them for years to come as they learn to multiply and divide with multidigit whole numbers and to add, subtract, multiply, and divide with fractions. After multiplication and division situations have

	been established, reasoning about patterns in products (e.g., products involving factors of 5 or 9) can help students remember particular products and quotients. Practice — and if necessary, extra support — should continue all year for those who need it to attain fluency.
MAFS.3.OA.4.8:	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MAFS.3.OA.4.9:	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*
MAFS.4.G.1.1:	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
MAFS.4.G.1.2:	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
MAFS.4.G.1.3:	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
MAFS.4.MD.1.1:	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
MAFS.4.MD.1.2:	Use the four operations to solve word problems[1] involving distances, intervals of time, and money, including problems involving simple fractions or decimals[2]. Represent fractional quantities of distance and intervals of time using linear models. ([1]See glossary Table 1 and Table 2) ([2]Computational fluency with fractions and decimals is not the goal for students at this grade level.)
MAFS.4.MD.1.3:	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*
MAFS.4.MD.2.4:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*
MAFS.4.MD.3.5:	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.
MAFS.4.MD.3.6:	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
MAFS.4.MD.3.7:	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
MAFS.4.NBT.1.1:	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*
MAFS.4.NBT.1.2:	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MAFS.4.NBT.1.3:	Use place value understanding to round multi-digit whole numbers to any place.
MAFS.4.NBT.2.4:	Fluently add and subtract multi-digit whole numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students' work with decimals (4.NF.3.5–3.7) depends to some extent on concepts of fraction
MAFS.4.NBT.2.5:	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they combine prior understanding of multiplication with deepening understanding of the base-ten system of units to express the product of two multi-digit numbers as another multi-digit number. This work will continue in grade 5 and culminate in fluency with the standard algorithms in grade 6.
MAFS.4.NBT.2.6:	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they combine prior understanding of multiplication and division with deepening understanding of the base-ten system of units to find whole-number quotients and remainders with up to four-digit dividends and one- digit divisors. This work will develop further in grade 5 and culminate in fluency with the standard algorithms in grade 6.
MAFS.4.NF.1.1:	Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Extending fraction equivalence to the general case is necessary to extend arithmetic from whole numbers to fractions and decimals.
MAFS.4.NF.1.2:	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

MAFS.4.NF.2.3:	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. **Clarifications:** **Examples of Opportunities for In-Depth Focus** This standard represents an important step in the multi-grade progression for addition and subtraction of fractions. Students extend their prior understanding of addition and subtraction to add and subtract fractions with like denominators by thinking of adding or subtracting so many unit fractions.
MAFS.4.NF.2.4:	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of 1/b. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).* b. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)* c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?* **Clarifications:** **Examples of Opportunities for In-Depth Focus** This standard represents an important step in the multi-grade progression for multiplication and division of fractions. Students extend their developing understanding of multiplication to multiply a fraction by a whole number.
MAFS.4.NF.3.5:	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
MAFS.4.NF.3.6:	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
MAFS.4.NF.3.7:	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.
MAFS.4.OA.1.1:	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MAFS.4.OA.1.2:	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
MAFS.4.OA.1.3:	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MAFS.4.OA.1.a:	Determine whether an equation is true or false by using comparative relational thinking. *For example, without adding 60 and 24, determine whether the equation 60 + 24 = 57 + 27 is true or false.*
MAFS.4.OA.1.b:	Determine the unknown whole number in an equation relating four whole numbers using comparative relational thinking. *For example, solve 76 + 9 = n + 5 for n by arguing that nine is four more than five, so the unknown number must be four greater than 76.*
MAFS.4.OA.2.4:	Investigate factors and multiples. a. Find all factor pairs for a whole number in the range 1–100. b. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. c. Determine whether a given whole number in the range 1–100 is prime or composite.
MAFS.4.OA.3.5:	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*
MAFS.5.G.1.1:	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
MAFS.5.G.1.2:	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
MAFS.5.G.2.3:	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
MAFS.5.G.2.4:	Classify and organize two-dimensional figures into Venn diagrams based on the attributes of the figures.
MAFS.5.MD.1.1:	Convert among different-sized standard measurement units (i.e., km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec) within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
MAFS.5.MD.2.2:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of*

	liquid each beaker would contain if the total amount in all the beakers were redistributed equally.
MAFS.5.MD.3.3:	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
MAFS.5.MD.3.4:	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
MAFS.5.MD.3.5:	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas V = l × w × h and V = B × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Students work with volume as an attribute of a solid figure and as a measurement quantity. Students also relate volume to multiplication and addition. This work begins a progression leading to valuable skills in geometric measurement in middle school.
MAFS.5.NBT.1.1:	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The extension of the place value system from whole numbers to decimals is a major intellectual accomplishment involving understanding and skill with base-ten units and fractions.
MAFS.5.NBT.1.2:	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
MAFS.5.NBT.1.3:	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MAFS.5.NBT.1.4:	Use place value understanding to round decimals to any place.
MAFS.5.NBT.2.5:	Fluently multiply multi-digit whole numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** 5.NBT.2.5 Students fluently multiply multi-digit whole numbers using the standard algorithm.
MAFS.5.NBT.2.6:	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The extension from one-digit divisors to two-digit divisors requires care. This is a major milestone along the way to reaching fluency with the standard algorithm in grade 6 (6.NS.2).
MAFS.5.NBT.2.7:	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
MAFS.5.NF.1.1:	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
MAFS.5.NF.1.2:	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they bring together the threads of fraction equivalence (grades 3–5) and addition and subtraction (grades K–4) to fully extend addition and subtraction to fractions.
MAFS.5.NF.2.3:	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

MAFS.5.NF.2.4:	a. Interpret the product *(a/b) × q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)* b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they fully extend multiplication to fractions, making division of fractions in grade 6 (6.NS.1) a near target.
MAFS.5.NF.2.5:	Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence *a/b = (n×a)/(n×b)* to the effect of multiplying *a/b* by 1.
MAFS.5.NF.2.6:	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MAFS.5.NF.2.7:	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.* b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.* c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*
MAFS.5.OA.1.1:	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MAFS.5.OA.1.2:	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*
MAFS.5.OA.2.3:	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or

MAFS.K12.MP.4.1:	use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

General Course Information and Notes

GENERAL NOTES

This course supports students who need additional instruction in foundational mathematics skills as it relates to core instruction. Instruction will use explicit, systematic, and sequential approaches to mathematics instruction addressing all domains including number sense, algebraic thinking, geometry, measurement and statistical thinking. Teachers will use the listed standards that correspond to each students' needs.

Effective instruction matches instruction to the need of the students in the group and provides multiple opportunities to practice the skill and receive feedback. The additional time allotted for this course is in addition to core instruction. The intervention includes materials and strategies designed to supplement core instruction.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade-level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following
link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Number: 5012015

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >
Abbreviated Title: FDN SKILLS MATH 3-5
Course Length: Multiple (M) - Course length can vary

Course Attributes:

- Class Size Core Required

Course Level: 1

Course Status: Course Approved

Grade Level(s): 3,4,5

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)
Mathematics (Elementary Grades 1-6)

Mathematics - Grade Kindergarten (#5012020) 2015 - 2022 (current)

Course Standards

MAFS.K

In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as 5 + 2 = 7 and 7 – 2 = 5. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinals of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Name	Description
MAFS.K.CC.1.1:	Count to 100 by ones and by tens.
MAFS.K.CC.1.2:	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
MAFS.K.CC.1.3:	Read and write numerals from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).
MAFS.K.CC.2.4:	Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.
MAFS.K.CC.2.5:	Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
MAFS.K.CC.3.6:	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
MAFS.K.CC.3.7:	Compare two numbers between 1 and 10 presented as written numerals.
MAFS.K.G.1.1:	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind, and next to.*
MAFS.K.G.1.2:	Correctly name shapes regardless of their orientations or overall size.
MAFS.K.G.1.3:	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
MAFS.K.G.2.4:	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
MAFS.K.G.2.5:	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
MAFS.K.G.2.6:	Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*
MAFS.K.MD.1.1:	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
MAFS.K.MD.1.2:	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*
MAFS.K.MD.1.a:	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*
MAFS.K.MD.2.3:	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
MAFS.K.NBT.1.1:	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
MAFS.K.OA.1.1:	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
MAFS.K.OA.1.2:	Solve addition and subtraction word problems[1], and add and subtract within 10, e.g., by using objects or drawings to represent the problem ([1]Students are not required to independently read the word problems.)
MAFS.K.OA.1.4:	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
MAFS.K.OA.1.5:	Fluently add and subtract within 5.
MAFS.K.OA.1.a:	Use addition and subtraction within 10 to solve word problems involving both addends unknown, e.g., by using objects, drawings, and equations with symbols for the unknown numbers to represent the problem. (Students are not required to independently read the word problems.)
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw

	diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.K.SL.1.1:	Participate in collaborative conversations with diverse partners about *kindergarten topics* and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges.
LAFS.K.SL.1.2:	Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

LAFS.K.SL.1.3:	Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
LAFS.K.W.1.2:	Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

In Kindergarten, instructional time should focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

1. Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as 5 + 2 = 7 and 7 – 2 = 5. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

2. Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.K.CC.1 Know number names and the count sequence.

MAFS.K.CC.2 Count to tell the number of objects.

MAFS.K.CC.3 Compare numbers.

MAFS.K.OA.1 Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

MAFS.K.NBT.1 Work with numbers 11-19 to gain foundations for place value.

Supporting Clusters

MAFS.K.MD.2 Classify objects and count the number of objects in each category.

MAFS.K.G.2 Analyze, compare, create, and compose shapes.

Additional Clusters

MAFS.K.MD.1 Describe and compare measurable attributes.

MAFS.K.G.1 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 5012020

Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: MATH GRADE K

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): K

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Early Childhood Education (Early Childhood)
Elementary Education (Grades K-6)

Mathematics - Grade One (#5012030) 2015 - 2022 (current)

Course Standards

MAFS.1

In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

1. Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.
2. Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.
3. Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement. Note: Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.
4. Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

Name	Description
MAFS.1.G.1.1:	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
MAFS.1.G.1.2:	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
MAFS.1.G.1.3:	Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
MAFS.1.MD.1.1:	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
MAFS.1.MD.1.a:	Understand how to use a ruler to measure length to the nearest inch. a. Recognize that the ruler is a tool that can be used to measure the attribute of length. b. Understand the importance of the zero point and end point and that the length measure is the span between two points. c. Recognize that the units marked on a ruler have equal length intervals and fit together with no gaps or overlaps. These equal interval distances can be counted to determine the overall length of an object.
MAFS.1.MD.2.3:	Tell and write time in hours and half-hours using analog and digital clocks.
MAFS.1.MD.2.a:	Identify and combine values of money in cents up to one dollar working with a single unit of currency[1]. a. Identify the value of coins (pennies, nickels, dimes, quarters). b. Compute the value of combinations of coins (pennies and/or dimes). c. Relate the value of pennies, dimes, and quarters to the dollar (e.g., There are 100 pennies *or* ten dimes *or* four quarters in one dollar.) ([1]Students are not expected to understand the decimal notation for combinations of dollars and cents.)
MAFS.1.MD.3.4:	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
MAFS.1.NBT.1.1:	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
MAFS.1.NBT.2.2:	Understand that the two digits of a two-digit number represent amounts of tens and ones. a. 10 can be thought of as a bundle of ten ones — called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). d. Decompose two-digit numbers in multiple ways (e.g., 64 can be decomposed into 6 tens and 4 ones or into 5 tens and 14 ones).
MAFS.1.NBT.2.3:	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
MAFS.1.NBT.3.4:	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
MAFS.1.NBT.3.5:	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
MAFS.1.NBT.3.6:	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a

	written method and explain the reasoning used.
MAFS.1.OA.1.1:	Use addition and subtraction within 20 to solve word problems[1] involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem ([1]Students are not required to independently read the word problems.)
MAFS.1.OA.1.2:	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
MAFS.1.OA.2.3:	Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*
MAFS.1.OA.2.4:	Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*
MAFS.1.OA.3.5:	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
MAFS.1.OA.3.6:	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).
MAFS.1.OA.4.7:	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*
MAFS.1.OA.4.8:	Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = [] – 3, 6 + 6 = [].*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently,

	express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.1.SL.1.1:	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion.
LAFS.1.SL.1.2:	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
LAFS.1.SL.1.3:	Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
LAFS.K12.W.1.2:	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

1. Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

2. Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

3. Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.

4. Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher

levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.1.OA.1 Represent and solve problems involving addition and subtraction.

MAFS.1.OA.2 Understand and apply properties of operations and the relationship between addition and subtraction.

MAFS.1.OA.3 Add and subtract within 20.

MAFS.1.OA.4 Work with addition and subtraction equations.

MAFS.1.NBT.1 Extend the counting sequence.

MAFS.1.NBT.2 Understand place value.

MAFS.1.NBT.3 Use place value understanding and properties of operations to add and subtract.

MAFS.1.MD.1 Measure lengths indirectly and by iterating length units.

Supporting Clusters

MAFS.1.MD.3 Represent and interpret data.

Additional Clusters

MAFS.1.MD.2 Work with time and money.

MAFS.1.G.1 Reason with shapes and their attributes.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 5012030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: MATH GRADE ONE

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 1

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

Mathematics - Grade Two (#5012040) 2015 - 2022 (current)

Course Standards

MAFS.2

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

1. Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).
2. Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalization methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.
3. Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.
4. Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two-and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Name	Description
MAFS.2.G.1.1:	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
MAFS.2.G.1.2:	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
MAFS.2.G.1.3:	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves, thirds, half of, a third of,* etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
MAFS.2.MD.1.1:	Measure the length of an object to the nearest inch, foot, centimeter, or meter by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
MAFS.2.MD.1.2:	Describe the inverse relationship between the size of a unit and number of units needed to measure a given object. *Example: Suppose the perimeter of a room is lined with one-foot rulers. Now, suppose we want to line it with yardsticks instead of rulers. Will we need more or fewer yardsticks than rulers to do the job? Explain your answer.*
MAFS.2.MD.1.3:	Estimate lengths using units of inches, feet, yards, centimeters, and meters.
MAFS.2.MD.1.4:	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
MAFS.2.MD.2.5:	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
MAFS.2.MD.2.6:	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.
MAFS.2.MD.3.7:	Tell and write time from analog and digital clocks to the nearest five minutes.
MAFS.2.MD.3.8:	Solve one- and two-step word problems involving dollar bills (singles, fives, tens, twenties, and hundreds) or coins (quarters, dimes, nickels, and pennies) using $ and ¢ symbols appropriately. Word problems may involve addition, subtraction, and equal groups situations[1]. *Example: The cash register shows that the total for your purchase is 59¢. You gave the cashier three quarters. How much change should you receive from the cashier?* a. Identify the value of coins and paper currency. b. Compute the value of any combination of coins within one dollar. c. Compute the value of any combinations of dollars (e.g., If you have three ten-dollar bills, one five-dollar bill, and two one-dollar bills, how much money do you have?). d. Relate the value of pennies, nickels, dimes, and quarters to other coins and to the dollar (e.g., There are five nickels in one quarter. There are two nickels in one dime. There are two and a half dimes in one quarter. There are twenty nickels in one dollar). ([1]See glossary Table 1)
MAFS.2.MD.4.9:	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
MAFS.2.MD.4.10:	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
MAFS.2.NBT.1.1:	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
MAFS.2.NBT.1.2:	Count within 1000; skip-count by 5s, 10s, and 100s.
MAFS.2.NBT.1.3:	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
MAFS.2.NBT.1.4:	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
MAFS.2.NBT.2.5:	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
MAFS.2.NBT.2.6:	Add up to four two-digit numbers using strategies based on place value and properties of operations.
	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the

MAFS.2.NBT.2.7:	relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
MAFS.2.NBT.2.8:	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
MAFS.2.NBT.2.9:	Explain why addition and subtraction strategies work, using place value and the properties of operations.
MAFS.2.OA.1.1:	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
MAFS.2.OA.1.a:	Determine the unknown whole number in an equation relating four or more whole numbers. For example, determine the unknown number that makes the equation true in the equations 37 + 10 + 10 = _____ + 18, ? − 6 = 13 − 4, and 15 − 9 = 6 + ☐.
MAFS.2.OA.2.2:	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
MAFS.2.OA.3.3:	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
MAFS.2.OA.3.4:	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Look for and make use of structure.

MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.2.SL.1.1:	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by linking their comments to the remarks of others. c. Ask for clarification and further explanation as needed about the topics and texts under discussion.
LAFS.2.SL.1.2:	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
LAFS.2.SL.1.3:	Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
LAFS.2.W.1.2:	Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

1. Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).

2. Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.

3. Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

4. Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.2.OA.1 Represent and solve problems involving addition and subtraction.

MAFS.2.OA.2 Add and subtract within 20.

MAFS.2.NBT.1 Understand place value.

MAFS.2.NBT.2 Use place value understanding and properties of operations to add and subtract.

MAFS.2.MD.1 Measure and estimate lengths in standard units.

MAFS.2.MD.2 Relate addition and subtraction to length.

Supporting Clusters

MAFS.2.OA.3 Work with equal groups of objects to gain foundations for multiplication.

MAFS.2.MD.3 Work with time and money.

MAFS.2.MD.4 Represent and interpret data.

Additional Clusters

MAFS.2.G.1 Reason with shapes and their attributes.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 5012040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: MATH GRADE TWO

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 2

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

Mathematics - Grade Three (#5012050) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.3.G.1.1:	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
MAFS.3.G.1.2:	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*
MAFS.3.MD.1.1:	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
MAFS.3.MD.1.2:	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Continuous measurement quantities such as liquid volume, mass, and so on are an important context for fraction arithmetic (cf. 4.NF.2.4c, 5.NF.2.7c, 5.NF.2.3). In grade 3, students begin to get a feel for continuous measurement quantities and solve whole- number problems involving such quantities.
MAFS.3.MD.2.3:	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
MAFS.3.MD.2.4:	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
MAFS.3.MD.3.5:	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.
MAFS.3.MD.3.6:	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
MAFS.3.MD.3.7:	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Area is a major concept within measurement, and area models must function as a support for multiplicative reasoning in grade 3 and beyond.
MAFS.3.MD.4.8:	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
MAFS.3.NBT.1.1:	Use place value understanding to round whole numbers to the nearest 10 or 100.
MAFS.3.NBT.1.2:	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **Clarifications:** Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. (Although 3.OA.3.7 and 3.NBT.1.2 are both fluency standards, these two standards do not represent equal investments of time in grade 3. Note that students in grade 2 were already adding and subtracting within 1000, just not fluently. That makes 3.NBT.1.2 a relatively small and incremental expectation. By contrast, multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.3.7 with understanding is a major portion of students' work in grade 3.)
MAFS.3.NBT.1.3:	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.
MAFS.3.NF.1.1:	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction *a/b* on a number line diagram by marking off *a* lengths *1/b* from 0. Recognize that the resulting interval has size *a/b* and that its endpoint locates the number *a/b* on the number line. **Clarifications:**

MAFS.3.NF.1.2:	**Example of Opportunities for In-Depth Focus** Developing an understanding of fractions as numbers is essential for future work with the number system. It is critical that students at this grade are able to place fractions on a number line diagram and understand them as a related component of their ever- expanding number system. **Fluency Expectations or Examples of Culminating Standards** Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. 3.NBT.1.2 a relatively small and incremental expectation.
MAFS.3.NF.1.3:	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
MAFS.3.OA.1.1:	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.2:	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.3:	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.4:	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations* 8 × ? = 48, 5 = [] ÷ 3, 6 × 6 = ?. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.2.5:	Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*
MAFS.3.OA.2.6:	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*
MAFS.3.OA.3.7:	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently multiply and divide within 100. By the end of grade 3, they know all products of two one-digit numbers from memory. Multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.3.7 with understanding is a major portion of students' work in grade 3. **Examples of Opportunities for In-Depth Focus** Finding single-digit products and related quotients is a required fluency for grade 3. Reaching fluency will take much of the year for many students. These skills and the understandings that support them are crucial; students will rely on them for years to come as they learn to multiply and divide with multidigit whole numbers and to add, subtract, multiply, and divide with fractions. After multiplication and division situations have been established, reasoning about patterns in products (e.g., products involving factors of 5 or 9) can help students remember particular products and quotients. Practice — and if necessary, extra support — should continue all year for those who need it to attain fluency.
MAFS.3.OA.4.8:	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

MAFS.3.OA.4.9:	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x$

	+ 1), $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion.
LAFS.3.SL.1.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.3.SL.1.3:	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
LAFS.3.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. b. Develop the topic with facts, definitions, and details. c. Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information. d. Provide a concluding statement or section.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.3

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

(2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

(3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

(4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher

levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.3.OA.1 Represent and solve problems involving multiplication and division.

MAFS.3.OA.2 Understand properties of multiplication and the relationship between multiplication and division.

MAFS.3.OA.3 Multiply and divide within 100.

MAFS.3.OA.4 Solve problems involving the four operations, and identify and explain patterns in arithmetic.

MAFS.3.NF.1 Develop understanding of fractions as numbers.

MAFS.3.MD.1 Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

MAFS.3.MD.3 Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

Supporting Clusters

MAFS.3.MD.2 Represent and interpret data.

MAFS.3.G.1 Reason with shapes and their attributes.

Additional Clusters

MAFS.3.NBT.1 Use place value understanding and properties of operations to perform multi-digit arithmetic.

MAFS.3.MD.4 Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 5012050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: MATH GRADE THREE

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 3

Educator Certifications

Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

Accelerated Mathematics Plan Grade Three (#5012055) 2019 - 2022 (current)

Course Standards

Name	Description
MAFS.3.G.1.1:	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
MAFS.3.G.1.2:	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*
MAFS.3.MD.1.1:	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
MAFS.3.MD.1.2:	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Continuous measurement quantities such as liquid volume, mass, and so on are an important context for fraction arithmetic (cf. 4.NF.2.4c, 5.NF.2.7c, 5.NF.2.3). In grade 3, students begin to get a feel for continuous measurement quantities and solve whole- number problems involving such quantities.
MAFS.3.MD.2.3:	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
MAFS.3.MD.2.4:	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
MAFS.3.MD.3.5:	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.
MAFS.3.MD.3.6:	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
MAFS.3.MD.3.7:	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Area is a major concept within measurement, and area models must function as a support for multiplicative reasoning in grade 3 and beyond.
MAFS.3.MD.4.8:	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
MAFS.3.NBT.1.1:	Use place value understanding to round whole numbers to the nearest 10 or 100.
MAFS.3.NBT.1.2:	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **Clarifications:** Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. (Although 3.OA.3.7 and 3.NBT.1.2 are both fluency standards, these two standards do not represent equal investments of time in grade 3. Note that students in grade 2 were already adding and subtracting within 1000, just not fluently. That makes 3.NBT.1.2 a relatively small and incremental expectation. By contrast, multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.3.7 with understanding is a major portion of students' work in grade 3.)
MAFS.3.NBT.1.3:	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.
MAFS.3.NF.1.1:	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.

	b. Represent a fraction *a/b* on a number line diagram by marking off *a* lengths *1/b* from 0. Recognize that the resulting interval has size *a/b* and that its endpoint locates the number *a/b* on the number line.
MAFS.3.NF.1.2:	**Clarifications:** **Example of Opportunities for In-Depth Focus** Developing an understanding of fractions as numbers is essential for future work with the number system. It is critical that students at this grade are able to place fractions on a number line diagram and understand them as a related component of their ever- expanding number system. **Fluency Expectations or Examples of Culminating Standards** Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. 3.NBT.1.2 a relatively small and incremental expectation.
MAFS.3.NF.1.3:	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
MAFS.3.OA.1.1:	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.2:	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.3:	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.1.4:	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations* 8 × ? = 48, 5 = [] ÷ 3, 6 × 6 = ?. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Word problems involving equal groups, arrays, and measurement quantities can be used to build students' understanding of and skill with multiplication and division, as well as to allow students to demonstrate their understanding of and skill with these operations.
MAFS.3.OA.2.5:	Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*
MAFS.3.OA.2.6:	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*
MAFS.3.OA.3.7:	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students fluently multiply and divide within 100. By the end of grade 3, they know all products of two one-digit numbers from memory. Multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.3.7 with understanding is a major portion of students' work in grade 3. **Examples of Opportunities for In-Depth Focus** Finding single-digit products and related quotients is a required fluency for grade 3. Reaching fluency will take much of the year for many students. These skills and the understandings that support them are crucial; students will rely on them for years to come as they learn to multiply and divide with multidigit whole numbers and to add, subtract, multiply, and divide with fractions. After multiplication and division situations have been established, reasoning about patterns in products (e.g., products involving factors of 5 or 9) can help students remember particular products and quotients. Practice — and if necessary, extra support — should continue all year for those who need it to attain fluency.

MAFS.3.OA.4.8:	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MAFS.3.OA.4.9:	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*
MAFS.4.G.1.1:	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
MAFS.4.G.1.2:	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
MAFS.4.MD.1.1:	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
MAFS.4.MD.1.3:	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*
MAFS.4.MD.3.5:	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.
MAFS.4.MD.3.6:	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
MAFS.4.MD.3.7:	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
MAFS.4.NBT.1.2:	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MAFS.4.NBT.1.3:	Use place value understanding to round multi-digit whole numbers to any place.
MAFS.4.NBT.2.4:	Fluently add and subtract multi-digit whole numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students' work with decimals (4.NF.3.5–3.7) depends to some extent on concepts of fraction
MAFS.4.NBT.2.5:	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they combine prior understanding of multiplication with deepening understanding of the base-ten system of units to express the product of two multi-digit numbers as another multi-digit number. This work will continue in grade 5 and culminate in fluency with the standard algorithms in grade 6.
MAFS.4.NF.1.1:	Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Extending fraction equivalence to the general case is necessary to extend arithmetic from whole numbers to fractions and decimals.
MAFS.4.NF.1.2:	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
MAFS.4.OA.1.1:	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MAFS.4.OA.1.2:	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
MAFS.4.OA.1.3:	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MAFS.4.OA.2.4:	Investigate factors and multiples. a. Find all factor pairs for a whole number in the range 1–100. b. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. c. Determine whether a given whole number in the range 1–100 is prime or composite.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete

	objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).

	c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion.
LAFS.3.SL.1.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.3.SL.1.3:	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
LAFS.3.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. b. Develop the topic with facts, definitions, and details. c. Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information. d. Provide a concluding statement or section.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

In this course, instructional time should focus on five critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) using place value to develop an understanding and fluency with multi-digit multiplication; (3) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (4) developing understanding of the structure of rectangular arrays and of area; and (5) describing, analyzing, and classifying two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

(2) Students generalize their understanding of place values to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalization methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems.

(3) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators. Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions

(4) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

(5) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole. Students describe, analyze, compare, and classify two-dimensional shapes based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following
link: cpalms.org/uploads/docs/standards/eld/MA.pdf

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 5012055

Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: ACCEL MATH GRADE 3

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 3

Educator Certifications

Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)
Mathematics (Elementary Grades 1-6)

Mathematics - Grade Four (#5012060) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.4.G.1.1:	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
MAFS.4.G.1.2:	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
MAFS.4.G.1.3:	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
MAFS.4.MD.1.1:	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
MAFS.4.MD.1.2:	Use the four operations to solve word problems[1] involving distances, intervals of time, and money, including problems involving simple fractions or decimals[2]. Represent fractional quantities of distance and intervals of time using linear models. ([1]See glossary Table 1 and Table 2) ([2]Computational fluency with fractions and decimals is not the goal for students at this grade level.)
MAFS.4.MD.1.3:	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*
MAFS.4.MD.2.4:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*
MAFS.4.MD.3.5:	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.
MAFS.4.MD.3.6:	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
MAFS.4.MD.3.7:	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
MAFS.4.NBT.1.1:	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*
MAFS.4.NBT.1.2:	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MAFS.4.NBT.1.3:	Use place value understanding to round multi-digit whole numbers to any place.
MAFS.4.NBT.2.4:	Fluently add and subtract multi-digit whole numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** Students' work with decimals (4.NF.3.5–3.7) depends to some extent on concepts of fraction
MAFS.4.NBT.2.5:	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they combine prior understanding of multiplication with deepening understanding of the base-ten system of units to express the product of two multi-digit numbers as another multi-digit number. This work will continue in grade 5 and culminate in fluency with the standard algorithms in grade 6.
MAFS.4.NBT.2.6:	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they combine prior understanding of multiplication and division with deepening understanding of the base-ten system of units to find whole-number quotients and remainders with up to four-digit dividends and one- digit divisors. This work will develop further in grade 5 and culminate in fluency with the standard algorithms in grade 6.
MAFS.4.NF.1.1:	Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Extending fraction equivalence to the general case is necessary to extend arithmetic from whole numbers to fractions and decimals.

MAFS.4.NF.1.2:	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
MAFS.4.NF.2.3:	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. **Clarifications:** **Examples of Opportunities for In-Depth Focus** This standard represents an important step in the multi-grade progression for addition and subtraction of fractions. Students extend their prior understanding of addition and subtraction to add and subtract fractions with like denominators by thinking of adding or subtracting so many unit fractions.
MAFS.4.NF.2.4:	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of 1/b. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).* b. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)* c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?* **Clarifications:** **Examples of Opportunities for In-Depth Focus** This standard represents an important step in the multi-grade progression for multiplication and division of fractions. Students extend their developing understanding of multiplication to multiply a fraction by a whole number.
MAFS.4.NF.3.5:	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
MAFS.4.NF.3.6:	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
MAFS.4.NF.3.7:	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.
MAFS.4.OA.1.1:	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MAFS.4.OA.1.2:	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
MAFS.4.OA.1.3:	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MAFS.4.OA.1.a:	Determine whether an equation is true or false by using comparative relational thinking. *For example, without adding 60 and 24, determine whether the equation 60 + 24 = 57 + 27 is true or false.*
MAFS.4.OA.1.b:	Determine the unknown whole number in an equation relating four whole numbers using comparative relational thinking. *For example, solve 76 + 9 = n + 5 for n by arguing that nine is four more than five, so the unknown number must be four greater than 76.*
MAFS.4.OA.2.4:	Investigate factors and multiples. a. Find all factor pairs for a whole number in the range 1–100. b. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. c. Determine whether a given whole number in the range 1–100 is prime or composite.
MAFS.4.OA.3.5:	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems

	and identify correspondences between different approaches.
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MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade *4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.

LAFS.4.SL.1.2:	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.4.SL.1.3:	Identify the reasons and evidence a speaker provides to support particular points.
LAFS.4.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within categories of information using words and phrases (e.g., *another, for example, also, because*). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.4

In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalization methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalization procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.4.OA.1 Use the four operations with whole numbers to solve problems.

MAFS.4.NBT.1 Generalize place value understanding for multi-digit whole numbers.

MAFS.4.NBT.2 Use place value understanding and properties of operations to perform multi-digit arithmetic.

MAFS.4.NF.1 Extend understanding of fraction equivalence and ordering.

MAFS.4.NF.2 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

MAFS.4.NF.3 Understand decimal notation for fractions, and compare decimal fractions.

Supporting Clusters

MAFS.4.OA.2 Gain familiarity with factors and multiples.

MAFS.4.MD.1 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

MAFS.4.MD.2 Represent and interpret data.

Additional Clusters

MAFS.4.OA.3 Generate and analyze patterns.

MAFS.4.MD.3 Geometric measurement: understand concepts of angle and measure angles.

MAFS.4.G.1 Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 5012060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: MATH GRADE FOUR

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 4

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Mathematics (Elementary Grades 1-6)
Elementary Education (Grades K-6)

Accelerated Mathematics Plan Grade 4 (#5012065) 2019 - 2022

(current)

Course Standards

Name	Description
MAFS.4.G.1.3:	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
MAFS.4.MD.1.2:	Use the four operations to solve word problems[1] involving distances, intervals of time, and money, including problems involving simple fractions or decimals[2]. Represent fractional quantities of distance and intervals of time using linear models. ([1]See glossary Table 1 and Table 2) ([2]Computational fluency with fractions and decimals is not the goal for students at this grade level.)
MAFS.4.MD.2.4:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*
MAFS.4.NBT.1.1:	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*
MAFS.4.NBT.2.6:	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students work toward meeting this standard, they combine prior understanding of multiplication and division with deepening understanding of the base-ten system of units to find whole-number quotients and remainders with up to four-digit dividends and one- digit divisors. This work will develop further in grade 5 and culminate in fluency with the standard algorithms in grade 6.
MAFS.4.NF.2.3:	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. **Clarifications:** **Examples of Opportunities for In-Depth Focus** This standard represents an important step in the multi-grade progression for addition and subtraction of fractions. Students extend their prior understanding of addition and subtraction to add and subtract fractions with like denominators by thinking of adding or subtracting so many unit fractions.
MAFS.4.NF.2.4:	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of 1/b. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).* b. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)* c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?* **Clarifications:** **Examples of Opportunities for In-Depth Focus** This standard represents an important step in the multi-grade progression for multiplication and division of fractions. Students extend their developing understanding of multiplication to multiply a fraction by a whole number.
MAFS.4.NF.3.5:	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
MAFS.4.NF.3.6:	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
MAFS.4.NF.3.7:	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

MAFS.4.OA.1.1:	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MAFS.4.OA.3.5:	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*
MAFS.5.G.1.1:	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
MAFS.5.G.1.2:	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
MAFS.5.G.2.3:	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
MAFS.5.G.2.4:	Classify and organize two-dimensional figures into Venn diagrams based on the attributes of the figures.
MAFS.5.MD.1.1:	Convert among different-sized standard measurement units (i.e., km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec) within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
MAFS.5.MD.2.2:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*
MAFS.5.MD.3.3:	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
MAFS.5.MD.3.4:	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
MAFS.5.MD.3.5:	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas V = l × w × h and V = B × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Students work with volume as an attribute of a solid figure and as a measurement quantity. Students also relate volume to multiplication and addition. This work begins a progression leading to valuable skills in geometric measurement in middle school.
MAFS.5.NBT.1.1:	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The extension of the place value system from whole numbers to decimals is a major intellectual accomplishment involving understanding and skill with base-ten units and fractions.
MAFS.5.NBT.1.2:	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
MAFS.5.NBT.1.3:	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MAFS.5.NBT.1.4:	Use place value understanding to round decimals to any place.
MAFS.5.NBT.2.5:	Fluently multiply multi-digit whole numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** 5.NBT.2.5 Students fluently multiply multi-digit whole numbers using the standard algorithm.
MAFS.5.NBT.2.6:	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The extension from one-digit divisors to two-digit divisors requires care. This is a major milestone along the way to reaching fluency with the standard algorithm in grade 6 (6.NS.2).

MAFS.5.NBT.2.7:	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
MAFS.5.NF.1.1:	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
MAFS.5.NF.1.2:	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they bring together the threads of fraction equivalence (grades 3–5) and addition and subtraction (grades K–4) to fully extend addition and subtraction to fractions.
MAFS.5.NF.2.3:	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
MAFS.5.NF.2.4:	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product *(a/b) × q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)* b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they fully extend multiplication to fractions, making division of fractions in grade 6 (6.NS.1) a near target.
MAFS.5.NF.2.5:	Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence *a/b = (n×a)/(n×b)* to the effect of multiplying *a/b* by 1.
MAFS.5.NF.2.6:	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MAFS.5.NF.2.7:	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.* b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.* c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*
MAFS.5.OA.1.1:	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MAFS.5.OA.1.2:	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*
MAFS.5.OA.2.3:	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to

MAFS.K12.MP.2.1:	bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.

LAFS.5.W.1.2:	b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

In this course, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

(1) Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number. Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalization procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context. Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3) Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following
link: cpalms.org/uploads/docs/standards/eld/MA.pdf.

GENERAL INFORMATION

Course Number: 5012065

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: ACCEL MATH GRADE 4

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 4

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)
Mathematics (Elementary Grades 1-6)

Mathematics - Grade Five (#5012070) 2015 - 2022 (current)

Course Standards

Name	Description
MAFS.5.G.1.1:	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
MAFS.5.G.1.2:	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
MAFS.5.G.2.3:	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
MAFS.5.G.2.4:	Classify and organize two-dimensional figures into Venn diagrams based on the attributes of the figures.
MAFS.5.MD.1.1:	Convert among different-sized standard measurement units (i.e., km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec) within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
MAFS.5.MD.2.2:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*
MAFS.5.MD.3.3:	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
MAFS.5.MD.3.4:	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
MAFS.5.MD.3.5:	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas V = l × w × h and V = B × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Students work with volume as an attribute of a solid figure and as a measurement quantity. Students also relate volume to multiplication and addition. This work begins a progression leading to valuable skills in geometric measurement in middle school.
MAFS.5.NBT.1.1:	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. **Clarifications:** **Examples of Opportunities for In-Depth Focus** The extension of the place value system from whole numbers to decimals is a major intellectual accomplishment involving understanding and skill with base-ten units and fractions.
MAFS.5.NBT.1.2:	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
MAFS.5.NBT.1.3:	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MAFS.5.NBT.1.4:	Use place value understanding to round decimals to any place.
MAFS.5.NBT.2.5:	Fluently multiply multi-digit whole numbers using the standard algorithm. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** 5.NBT.2.5 Students fluently multiply multi-digit whole numbers using the standard algorithm.
MAFS.5.NBT.2.6:	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. **Clarifications:**

	Examples of Opportunities for In-Depth Focus The extension from one-digit divisors to two-digit divisors requires care. This is a major milestone along the way to reaching fluency with the standard algorithm in grade 6 (6.NS.2).
MAFS.5.NBT.2.7:	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
MAFS.5.NF.1.1:	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
MAFS.5.NF.1.2:	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they bring together the threads of fraction equivalence (grades 3–5) and addition and subtraction (grades K–4) to fully extend addition and subtraction to fractions.
MAFS.5.NF.2.3:	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
MAFS.5.NF.2.4:	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product *(a/b) × q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)* b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they fully extend multiplication to fractions, making division of fractions in grade 6 (6.NS.1) a near target.
MAFS.5.NF.2.5:	Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence *a/b = (n×a)/(n×b)* to the effect of multiplying *a/b* by 1.
MAFS.5.NF.2.6:	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MAFS.5.NF.2.7:	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.* b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.* c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*
MAFS.5.OA.1.1:	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MAFS.5.OA.1.2:	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*
MAFS.5.OA.2.3:	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems

	and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
LAFS.5.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

MAFS.5

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3)Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Mathematics. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link:
cpalms.org/uploads/docs/standards/eld/MA.pdf

Florida Standards Implementation Guide Focus Section:

The Mathematics Florida Standards Implementation Guide was created to support the teaching and learning of the Mathematics Florida Standards. The guide is compartmentalized into three components: focus, coherence, and rigor.Focus means narrowing the scope of content in each grade or course, so students achieve higher levels of understanding and experience math concepts more deeply. The Mathematics standards allow for the teaching and learning of mathematical concepts focused around major clusters at each grade level, enhanced by supporting and additional clusters. The major, supporting and additional clusters are identified, in relation to each grade or course. The cluster designations for this course are below.

Major Clusters

MAFS.5.NBT.1 Understand the place value system.

MAFS.5.NBT.2 Perform operations with multi-digit whole numbers and with decimals to hundredths.

MAFS.5.NF.1 Use equivalent fractions as a strategy to add and subtract fractions.

MAFS.5.NF.2 Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

MAFS.5.MD.3 Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Supporting Clusters

MAFS.5.MD.1 Convert like measurement units within a given measurement system.

MAFS.5.MD.2 Represent and interpret data.

Additional Clusters

MAFS.5.OA.1 Write and interpret numerical expressions.

MAFS.5.OA.2 Analyze patterns and relationships.

MAFS.5.G.1 Graph points on the coordinate plane to solve real-world and mathematical problems.

MAFS.5.G.2 Classify two-dimensional figures into categories based on their properties.

Note: Clusters should not be sorted from major to supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting and additional clusters.

GENERAL INFORMATION

Course Number: 5012070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Mathematics > **SubSubject:** General Mathematics >

Abbreviated Title: MATH GRADE FIVE

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 5

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Mathematics (Elementary Grades 1-6)
Middle Grades Mathematics (Middle Grades 5-9)
Elementary Education (Grades K-6)

M/J Music Theory 1 (#1300000) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.6:	Compose a melody, with or without lyrics, over a standard harmonic progression.
MU.68.S.1.8:	Demonstrate specified mixing and editing techniques using selected software and hardware.
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under

	discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students discover how music works with an exploratory introduction to the compositional process, and develop fluency in music notation and rhythmic skills, as well as knowledge of basic form. Acquisition of basic aural and keyboard skills provides students with skills to express themselves creatively through music. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1300000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J MUS THEORY 1

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Music Theory 2 (#1300010) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.1.4:	Identify, aurally, a variety of vocal styles and ensembles. **Clarifications:** e.g., chant, spiritual, folk, opera, world, jazz, pop, solo, duet, trio, quartet, small ensembles, choirs
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.1.2:	Create an original composition that reflects various performances that use "traditional" and contemporary technologies. **Clarifications:** e.g., MIDI, Internet video resources, personal digital assistants, MP3 players, cell phones, digital recording, music software
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.1:	Create a composition, manipulating musical elements and exploring the effects of those manipulations. **Clarifications:** e.g., using electronic or paper-and-pencil means to experiment with timbre, melody, rhythm, harmony, form, tonality
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration

MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.2:	Compose a short musical piece. **Clarifications:** e.g., using traditional, non-traditional, digital, or classroom instruments and/or voice
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.5:	Perform melodies with chord progressions. **Clarifications:** e.g., keyboard/piano, keyboard/piano and voice, guitar, voice and guitar
MU.68.S.1.6:	Compose a melody, with or without lyrics, over a standard harmonic progression.
MU.68.S.1.8:	Demonstrate specified mixing and editing techniques using selected software and hardware.
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with prior music theory experience expand their understanding of the technical and structural elements of music. Intermediate-level music theorists develop the aural skills needed for a variety of musical styles and processes, including composition, improvisation, performance, and consumerism. Class work focuses on creativity and strengthening analytical abilities. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1300010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >
Abbreviated Title: M/J MUS THEORY 2
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Basic Music Theory (#1300025) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.6:	Compose a melody, with or without lyrics, over a standard harmonic progression.
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use

	technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

In this introductory theory course, students develop fluency in reading and writing music, as well as knowledge of basic form. Acquisition of basic aural and keyboard skills provides students with skills to express themselves creatively through music. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside of the school day to support, extend, and assess learning in the classroom.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

GENERAL INFORMATION

Course Number: 1300025

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J BASIC MUS THEORY

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Elementary and Secondary Grades K-12)

M/J Understanding Music (#1300030) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.1.4:	Identify, aurally, a variety of vocal styles and ensembles. **Clarifications:** e.g., chant, spiritual, folk, opera, world, jazz, pop, solo, duet, trio, quartet, small ensembles, choirs
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
	Attend to precision.

MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Students engage in an exploratory study of music through the examination of significant composers and their compositions across selected musical eras and/or genres. Students will also learn about modern and historical instruments, and gain a rudimentary understanding of the elements of music in order to develop strategies for listening to and appreciating musical works. Students may be expected to attend one or more performances outside of the school day to support and extend learning in the classroom.
English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

GENERAL INFORMATION

Course Number: 1300030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >
Abbreviated Title: M/J UNDERSTAND MUSIC
Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Elementary and Secondary Grades K-12)

M/J Exploring Music Performance (#1300080) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

General Course Information and Notes

GENERAL NOTES

Students with little or no vocal or instrumental experience develop basic foundational skills and knowledge, including music theory, technique, musicianship and ensemble skills. Students also explore different genres of music and learn about the benefits of music study. Students may be required to attend one or more performances outside of the school day to support, extend, and assess learning in the classroom. This course may require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

GENERAL INFORMATION

Course Number: 1300080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J EXPL MUS PERF

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Music Transfer (#1300220) 2015 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 1300220

Course Type: Transfer Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Music Technology >

Abbreviated Title: M/J MUS TRAN

Course Length: Not Applicable

Music Theory 1 (#1300300) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.8:	Record, mix, and edit a recorded performance.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. **Standard Relation to Course: Supporting**
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

LAFS.910.SL.1.1:	b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students learn how music is constructed and developed, and acquire a basic understanding of the structural, technical, and historical elements of music. Student theorists develop basic ear-training, keyboard, and functional singing skills, and engage in the creative process through individual and collaborative projects. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

Special Notes:

Instructional Practices
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1300300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: MUS THEORY 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Music Theory 2 Honors (#1300310) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.1.2:	Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing

MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.1.8:	Record, mix, and edit a recorded performance.
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. **Standard Relation to Course: Supporting**
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with prior music theory training study composition, form, and analysis, and develop individual aural skills. The aural, analytical, and cognitive skills expanded in this class inform the serious musician's performance abilities over a variety of styles and genres. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Instructional Practices
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, textspecific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1300310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: MUS THEORY 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Pre-Advanced Placement Music (#1300320) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The course description for this Pre-Advanced Placement (Pre-AP) course is located on the College Board site at pre-ap.collegeboard.org/courses.

GENERAL INFORMATION

Course Number: 1300320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: PRE-AP MUSIC

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Advanced Placement Music Theory (#1300330) 2020 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 1300330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: AP MUS THEORY

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Music of the World (#1300340) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LAFS.910.L.1.1:	a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. **Standard Relation to Course: Supporting**
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. **Standard Relation to Course: Supporting**
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. **Standard Relation to Course: Supporting**
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students explore the musical traditions of 20th- and 21st-century American and global communities around the world through study of current trends, focusing on the function of music within various cultures (e.g., jazz, world drumming, mariachi, soul, gamelan, Bollywood, digital). Students examine and report on human activities involving music, technology- and culture-related influences on music, and the sounds and structures of music composition. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1300340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: MUSIC WORLD

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Cambridge AICE Music 1 AS Level (#1300395) 2020 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 1300395

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: AICE MUSIC 1 AS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Florida's Preinternational Baccalaureate Music 1 (#1300800) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from

LAFS.1112.SL.1.1:	texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this Pre-IB class refine their musicianship and performance skills on a specified instrument or voice. Students prepare for post-secondary and community music experiences and develop artistry independently through a variety of advanced solos, etudes, and excerpts. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental class, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

In addition, the purpose of this Pre-IB course is to prepare students for the International Baccalaureate Diploma Programme (DP). As such, this course will provide academic rigor and relevance through a comprehensive curriculum based on the Next Generation Sunshine State Standards taught with reference to the unique facets of the IB. These facets include interrelatedness of subject areas, holistic view of knowledge, intercultural awareness embracing international issues, and communication as fundamental to learning. Instructional design must provide students with values and opportunities that enable them to develop respect for others and an appreciation of similarities and differences. Learning how to learn and how to critically evaluate information is as important as the content of the disciplines themselves.

GENERAL NOTES

Special Note. *Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course".*

The IB does not recognize pre-IB courses or courses labeled IB by different school districts which are not an official part of the IBDP or IBCC curriculum. Typically, students enrolled in grade 9 or 10 are not in the IBDP or IBCC programmes.
ibanswers.ibo.org/app/answers/detail/a_id/5414/kw/pre-ib. **Florida's Pre-IB courses should only be used in schools where MYP is not offered in order to prepare students to enter the IBDP. Teachers of Florida's Pre-IB courses should have undergone IB training in order to ensure seamless articulation for students within the subject area.**
Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1300800

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >
Abbreviated Title: FL PRE-IB MUSIC 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Florida's Preinternational Baccalaureate Music 2 (#1300810) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
	Perform and notate, independently and accurately, melodies by ear.

MU.912.S.1.4:	**Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**

DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with extensive vocal or instrumental ensemble experience refine their critical listening, music literacy, and ensemble skills through the study, rehearsal, and performance of high-quality, advanced literature. Students in this Pre-IB class use reflection and problem-solving skills with increasing independence to improve their performance and musical expression. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source. In addition, the purpose of this Pre-IB course is to prepare students for the International Baccalaureate Diploma Programme (DP). As such, this course will provide academic rigor and relevance through a comprehensive curriculum based on the Next Generation Sunshine State Standards taught with reference to the unique facets of the IB. These facets include interrelatedness of subject areas, holistic view of knowledge, intercultural awareness embracing international issues, and communication as fundamental to learning. Instructional design must provide students with values and opportunities that enable them to develop respect for others and an appreciation of similarities and differences. Learning how to learn and how to critically evaluate information is as important as the content of the disciplines themselves.

GENERAL NOTES

Special Note. *Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course".*

The IB does not recognize pre-IB courses or courses labeled IB by different school districts which are not an official part of the IBDP or IBCC curriculum. Typically, students enrolled in grade 9 or 10 are not in the IBDP or IBCC programmes.
ibanswers.ibo.org/app/answers/detail/a_id/5414/kw/pre-ib. **Florida's Pre-IB courses should only be used in schools where MYP is not offered in order to prepare students to enter the IBDP. Teachers of Florida's Pre-IB courses should have undergone IB training in order to ensure seamless articulation for students within the subject area.**
Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1300810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music > **Abbreviated Title:** FL PRE-IB MUSIC 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

International Baccalaureate Music 1 (#1300816) 2020 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1300816

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: IB MUSIC 1

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

International Baccalaureate Music 2 (#1300818) 2020 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1300818

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: IB MUSIC 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

International Baccalaureate Music 3 (#1300820) 2020 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1300820

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: IB MUSIC 3

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

International Baccalaureate MYP Music 1 (#1300840) 2020 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1300840

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: IB MYP MUSIC 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Vocal Music (Secondary Grades 7-12)

International Baccalaureate Mid Years Program Music 2 (#1300850) 2020 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1300850

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: IB MYP MUSIC 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Vocal Music (Secondary Grades 7-12)

Music Transfer (#1300990) 2015 - 2022 (current)

General Course Information and Notes

VERSION DESCRIPTION

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 1300990

Course Type: Transfer Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Eurythmics >

Abbreviated Title: MUS TRAN

Course Length: Not Applicable

M/J Keyboard 1 (#1301030) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no prior experience develop fundamental piano techniques, learn to read music, apply basic music theory, and explore the role of keyboard music in history and culture. Beginning pianists explore musical creativity in the form of basic arranging and improvisation, and develop analytical listening and problem-solving skills. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J KEYBD 1
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Keyboard 2 (#1301040) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.6:	Compose a melody, with or without lyrics, over a standard harmonic progression.
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response

MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build on prior piano experience to develop intermediate piano techniques and skills, and learn music repertoire from various styles and time periods. They explore musical creativity through improvisation and composition, and cultivate analytical listening and critical thinking skills associated with making informed musical decisions.

Intermediate-level pianists also learn about the basic tools of music technology through such components as MIDI keyboards. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J KEYBD 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Keyboard 3 (#1301050) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.1.4:	Identify, aurally, a variety of vocal styles and ensembles. **Clarifications:** e.g., chant, spiritual, folk, opera, world, jazz, pop, solo, duet, trio, quartet, small ensembles, choirs
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.1.2:	Create an original composition that reflects various performances that use "traditional" and contemporary technologies. **Clarifications:** e.g., MIDI, Internet video resources, personal digital assistants, MP3 players, cell phones, digital recording, music software
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.1:	Create a composition, manipulating musical elements and exploring the effects of those manipulations. **Clarifications:** e.g., using electronic or paper-and-pencil means to experiment with timbre, melody, rhythm, harmony, form, tonality
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:**

	e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.2:	Compose a short musical piece. **Clarifications:** e.g., using traditional, non-traditional, digital, or classroom instruments and/or voice
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.5:	Perform melodies with chord progressions. **Clarifications:** e.g., keyboard/piano, keyboard/piano and voice, guitar, voice and guitar
MU.68.S.1.6:	Compose a melody, with or without lyrics, over a standard harmonic progression.
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other

	mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with significant knowledge of piano technique, music literacy, and related musical knowledge extend their skills through a variety of solo and ensemble literature. Students explore the influence of the piano on performance and composition through history, and develop the skills needed to assess their own and others' piano performances. Advanced middle school pianists investigate familiar, new, and emerging music technology and its connection to keyboards and other sound-generating devices. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J KEYBD 3
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Guitar 1 (#1301060) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.5:	Perform melodies with chord progressions. **Clarifications:** e.g., keyboard/piano, keyboard/piano and voice, guitar, voice and guitar
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper,

MAFS.K12.MP.5.1:	concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no experience develop basic guitar skills and knowledge, including simple and full-strum chords, strumming patterns, playing/singing simple melodies, foundational music theory, parts of the guitar, and ensemble skills. Beginning guitarists explore the careers and music of significant performers in pop/rock, jazz, blues, classical, country, bluegrass, and hard rock/metal genres. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J GUITAR 1
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Guitar 2 (#1301070) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.5:	Perform melodies with chord progressions. **Clarifications:** e.g., keyboard/piano, keyboard/piano and voice, guitar, voice and guitar
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
	Sing and/or play age-appropriate repertoire expressively.

MU.68.S.3.1:	**Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous experience expand on basic guitar skills and knowledge, adding simple and full-strum chords, barre and power chords, and strumming patterns; adding more complex lead sheets and 1st-position chromatics; and building ensemble skills. Guitarists transfer between tablature and standard notation, study the work of significant

musicians, and explore electric guitars, basses, and amplifiers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J GUITAR 2
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Guitar 3 (#1301080) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
	Sing or play melodies by ear with support from the teacher and/or peers.

MU.68.S.1.4:	**Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.5:	Perform melodies with chord progressions. **Clarifications:** e.g., keyboard/piano, keyboard/piano and voice, guitar, voice and guitar
MU.68.S.1.6:	Compose a melody, with or without lyrics, over a standard harmonic progression.
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later,

MAFS.K12.MP.7.1:	students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression x^2 + 9x + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 – 3(x – y)² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous experience strengthen their guitar skills and knowledge, reviewing barre and power chords; adding strumming and finger-picking patterns; playing in 5th position; working with major scales; and building ensemble skills. Guitarists expand their tablature and standard-notation reading skills, add to their knowledge of significant musicians, and explore electric guitars, basses, and amplifiers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J GUITAR 3

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Exploring Music 1 (#1301090) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.

	c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students explore the essential elements of 20th- and 21st-century music in America (e.g., jazz, rock, soul, blues) and global cultures (e.g., Latin, Bollywood, European, Asian, world drumming). Students reflect on the significance of social influences and historical events on the development of music. Participants focus on the creation, use, and performance of music; and the modes of listening, distributing, and gaining access to music. Public performances may serve as a resource for specific instructional goals.Students may be expected to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301090

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J EXPL MUSIC 1

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J Exploring Music 2 (#1301100) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.1.4:	Identify, aurally, a variety of vocal styles and ensembles. **Clarifications:** e.g., chant, spiritual, folk, opera, world, jazz, pop, solo, duet, trio, quartet, small ensembles, choirs
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.2:	Compose a short musical piece. **Clarifications:** e.g., using traditional, non-traditional, digital, or classroom instruments and/or voice
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:**

	e.g., error detection, interval reinforcement
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students survey the growth of American music from its early years to 21st-century consumers, focusing on the settling of the nation and the effects of emigration. Learners explore the historical connections, cultural influences, and innovations of music development from the perspective of Native American music and that which was brought to American shores from other nations. Public performances may serve as a resource for specific instructional goals. Students may be expected to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J EXPL MUSIC 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Exploring Music 3 (#1301110) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.1.2:	Create an original composition that reflects various performances that use "traditional" and contemporary technologies. **Clarifications:** e.g., MIDI, Internet video resources, personal digital assistants, MP3 players, cell phones, digital recording, music software
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.1:	Create a composition, manipulating musical elements and exploring the effects of those manipulations. **Clarifications:** e.g., using electronic or paper-and-pencil means to experiment with timbre, melody, rhythm, harmony, form, tonality
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.2:	Compose a short musical piece. **Clarifications:** e.g., using traditional, non-traditional, digital, or classroom instruments and/or voice
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response

MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students engage in a study of global music traditions through history examining genres, significant composers, and compositions over time. As they review the expressive elements of music and compositional tools, students create music, develop structural mapping skills, self-assess, and connect music to its origins. Public performances may serve as a resource for specific instructional goals. Students may be expected to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301110

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J EXPL MUSIC 3

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Guitar 1 (#1301320) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no experience develop basic guitar skills and knowledge, including simple and full-strum chords, bass lines and lead sheets, barre and power chords, foundational music literacy and theory, major scales, simple finger-picking patterns, and ensemble skills for a variety of music. Beginning guitarists explore the careers and music of significant performers in a variety of styles. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** GUITAR 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Guitar 2 (#1301330) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous guitar experience build on their skills and knowledge, adding chords, new strumming and finger-picking patterns, movable major and minor scales, basic music theory, more complex bass lines and lead sheets, and ensemble skills for a variety of music. Beginning guitarists explore the careers and music of significant performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301330	**Course Path: Section:** Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** GUITAR 2
Number of Credits: One (1) credit	**Course Length:** Year (Y)
Course Type: Core Academic Course	**Course Level:** 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Guitar 3 (#1301340) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions

	when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous experience strengthen their guitar skills and knowledge, adding a variety of chords; refining finger-picking and strumming patterns; reading notation in 1st, 2nd, and 5th position; and learning stylistic nuances, left-hand technique, and alternative fingering. Guitarists readily use tablature and standard notation, study the work of significant musicians, and develop significant self-assessment skills. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 1301340

Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: GUITAR 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Guitar 4 Honors (#1301350) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.2:	Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process

MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with considerable experience broaden their guitar skills and knowledge, adding left- and right-hand techniques and stylistic nuances; work with classical etudes and ensemble performance literature; and become familiar with modes and jazz chords. Guitarists extend their reading and theory skills and add to their knowledge of significant musicians through history. In keeping with the rigor expected in an Honors course, students undertake independent study that includes synthesis of learning and experience. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** GUITAR 4 HONORS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Keyboard 1 (#1301360) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. **Standard Relation to Course: Supporting**
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

	Standard Relation to Course: Supporting
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build fundamental piano techniques while learning to read music, acquire and apply knowledge of basic music theory, and explore the role of keyboard music in history and culture. Beginning pianists develop skills in analytical listening and explore musical creativity in the form of basic improvisation and basic composition. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: KEYBD 1

Number of Credits: One (1) credit
Course Length: Year (Y)
Course Type: Core Academic Course
Course Level: 2
Course Status: Course Approved
Grade Level(s): 9,10,11,12
Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Keyboard 2 (#1301370) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:**

	e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build on previous piano techniques and skills through reading music, acquiring and applying knowledge of music theory, and exploring the role of keyboard music in history and culture. Students learn repertoire from various styles and time periods, exploring the historical influence keyboards have had on music performance and composition. Students explore the basic tools of music technology (i.e., MIDI keyboards). Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional

purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301370

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** KEYBD 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Keyboard 3 (#1301380) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:**

	e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**

DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students further develop advanced knowledge of piano techniques, musical literacy, solo and ensemble performance skills, and related musical knowledge, using a variety of advanced piano literature. Students explore the historical influence keyboards have had on music performance and composition, and apply criteria to assess their own and others' piano performances. Students extend their knowledge of music technology (i.e., MIDI keyboards) and its connection to the computer and other sound-generating devices. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** KEYBD 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Keyboard 4 Honors (#1301390) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.1.2:	Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public

	speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.1.6:	Synthesize music, MIDI, pod-casting, webpage-development, and/or similar technology-based skills to share knowledge. **Clarifications:** e.g., history of electronic music and musicians; physics of sound; signal flow; effects of MIDI on studios, instruments, musicians, and producers
MU.912.S.1.7:	Combine and/or create virtual and audio instruments.
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. b. Resolve issues of complex or contested usage, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage*) as needed. **Standard Relation to Course: Supporting**
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper,

MAFS.K12.MP.5.1:	concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students develop highly advanced piano techniques, music literacy, solo performance skills, and related musical knowledge through a variety of advanced piano literature. Students work toward greater musical independence through accompanying other musicians, performing solos, and/or creating original music compositions. In keeping with the rigor expected in an Honors course, students undertake independent study that includes synthesis of learning and experience. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1301390

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: KEYBD 4 HONORS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

M/J Band 1 (#1302000) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no instrumental experience develop foundational instrumental technique, foundational music literacy, and aesthetic musical awareness through rehearsal, performance, and study of high-quality band literature. Instrumentalists work on the fundamentals of music notation, sound production, instrument care and maintenance, and personal and group rehearsal strategies. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J BAND 1
Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Band 2 (#1302010) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.1.5:	Perform melodies with chord progressions. **Clarifications:** e.g., keyboard/piano, keyboard/piano and voice, guitar, voice and guitar
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques.

MU.68.S.3.6:	**Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous band experience build on instrumental technique, music literacy, and aesthetic response through rehearsal, performance, and study of a variety of high-quality band literature. Instrumentalists expand their knowledge of music notation, music theory, sound production, and personal and group rehearsal strategies. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level

words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J BAND 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

M/J Band 3 (#1302020) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:**

	e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see

	complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 – 3(x – y)² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous band experience expand on their instrumental technique, music literacy, and aesthetic response through rehearsal, performance, and study of a variety of intermediate-level, high-quality band literature. Instrumentalists extend their knowledge of music notation and theory, sound production, and personal and group rehearsal strategies. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J BAND 3

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Band 4 (#1302030) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.1:	Create a composition, manipulating musical elements and exploring the effects of those manipulations. **Clarifications:** e.g., using electronic or paper-and-pencil means to experiment with timbre, melody, rhythm, harmony, form, tonality
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:**

	e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.2:	Compose a short musical piece. **Clarifications:** e.g., using traditional, non-traditional, digital, or classroom instruments and/or voice
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully

	formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with considerable band experience strengthen their instrumental technique, music literacy, and aesthetic response through rehearsal, performance, and study of a variety of advanced, high-quality band literature. Instrumentalists refine their knowledge of music notation and theory, sound production, and personal and group rehearsal strategies. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J BAND 4

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Orchestra 1 (#1302040) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students who have little or no experience on violin, viola, cello, bass, or harp explore high-quality music literature written or transcribed for string orchestra. Study includes the development of foundational instrumental ensemble techniques, performance skills, music literacy, and aesthetic awareness. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J ORCH 1
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Orchestra 2 (#1302050) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and

LAFS.6.SL.1.1:	issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students who have some previous orchestral experience focus on the development of instrumental technique, musical literacy, performance skills, and increasing aesthetic awareness through study, rehearsal, and performance of a variety of high-quality orchestra literature. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J ORCH 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Orchestra 3 (#1302060) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.

MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous orchestral experience demonstrate intermediate-level knowledge of instrumental techniques, musical literacy, ensemble performance skills, and related musical knowledge through study, rehearsal, and performance of a variety of high-quality orchestral literature. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J ORCH 3

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

M/J Orchestra 4 (#1302070) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.3:	Identify, aurally, instrumental styles and a variety of instrumental ensembles. **Clarifications:** e.g., Classical, Baroque, Romantic, contemporary, jazz, pop, solo, duet, trio, quartet, small ensembles
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
	Create a composition, manipulating musical elements and exploring the effects of those manipulations.

MU.68.O.2.1:	**Clarifications:** e.g., using electronic or paper-and-pencil means to experiment with timbre, melody, rhythm, harmony, form, tonality
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**

	Attend to precision.
MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Standard Relation to Course: Supporting
	Look for and make use of structure.
MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous orchestral experience demonstrate advanced knowledge of instrumental techniques, musical literacy, ensemble skills, and related musical knowledge through study, rehearsal, and performance of a variety of high-quality orchestral literature. Additional opportunities for experiences in small ensembles, solo performance, and various leadership roles may be available. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J ORCH 4
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Instrumental Techniques 1 (#1302080) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**

LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no instrumental experience develop musicianship, technical proficiency, and performance skills. Beginning musicians focus on development of skills and techniques through scales, etudes, and solo literature. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J INSTRU TECNQS 1
Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Instrumental Techniques 2 (#1302090) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.

	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques.
MU.68.S.3.6:	**Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build on previous instruction to strengthen their musicianship, technique, and performance skills through preparation of scales, etudes, and solo literature. Through problem-solving, critical thinking, and reflection, students develop the physical and cognitive skills necessary to be more disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area

concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302090

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J INSTRU TECNQS 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Instrumental Techniques 3 (#1302100) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:**

	e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Student musicians build on previous instruction to develop high levels of musicianship, technical proficiency, and performance skills through preparation of technically challenging scales, etudes, and solo literature. Students use problem-solving, critical thinking, and reflection to demonstrate the skills of disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J INSTRU TECNQS 3

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Instrumental Ensemble 1 (#1302110) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

	Standard Relation to Course: Supporting
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no instrumental ensemble experience develop musicianship and performance skills as they study, rehearse, and perform high-quality ensemble literature in diverse styles. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302110

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J INSTRU ENS 1

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Instrumental Ensemble 2 (#1302120) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
	Sight-read standard exercises and simple repertoire.

MU.68.S.3.3:	**Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous instrumental ensemble experience continue to build musicianship and performance skills through the study, rehearsal, and performance of high-quality ensemble literature in a variety of styles. Student musicians learn to self-assess and collaborate as they study relevant musical styles and time periods. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302120

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J INSTRU ENS 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Instrumental Ensemble 3 (#1302130) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.

MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students continue to build musicianship and performance skills through the study, rehearsal, and performance of increasingly challenging, high-quality instrumental ensemble literature. Student musicians strengthen their techniques, ensemble skills, music literacy, and analytical skills as they study relevant history, cultures, and music genres. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302130

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J INSTRU ENS 3
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Band 2 and Career Planning (#1302140) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.

MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous band experience build on instrumental technique, music literacy, and aesthetic response through rehearsal, performance, and study of a variety of high-quality band literature. Instrumentalists expand their knowledge of music notation, music theory, sound production, and personal and group rehearsal strategies. In tandem with their learning opportunities in band, students investigate careers in a wide variety of fields guided by the competencies required by Florida Statute. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level

words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302140

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: M/J BAND 2&CAR PLAN

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Band 3 and Career Planning (#1302142) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous band experience expand on their instrumental technique, music literacy, and aesthetic response through rehearsal, performance, and study of a variety of intermediate-level, high-quality band literature. Instrumentalists extend their knowledge of music notation and theory, sound production, and rehearsal strategies. In tandem with their learning opportunities in band, students investigate careers in a wide variety of fields guided by the competencies required by Florida Statute. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302142

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: M/J BAND 3&CAR PLAN
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Band 1 (#1302300) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.

MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, entry-level class, designed for students having little or no previous band experience with woodwind, brass, and/or percussion instruments, promotes the enjoyment and appreciation of music through performance of high-quality, beginning wind and percussion literature from different times and places. Rehearsals focus on the

development of critical listening/aural skills; rudimentary instrumental technique and skills, music literacy, and ensemble skills; and aesthetic musical awareness culminating in periodic public performances.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Notes: This course may require students to participate in extra rehearsals and performances beyond the school day. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** BAND 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Band 2 (#1302310) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:**

	e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, beginning-level class, designed for students with at least one year of woodwind, brass, and/ or percussion ensemble experience, promotes the enjoyment and appreciation of music through performance of high-quality wind and percussion literature. Rehearsals focus on the development of critical listening skills, instrumental and ensemble technique and skills, expanded music literacy, and aesthetic awareness culminating in periodic public performances.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Notes: This course may require students to participate in extra rehearsals and performances beyond the school day. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: BAND 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Band 3 (#1302320) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables

MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, formative class, designed for students ready to build on skills and knowledge previously acquired in a middle or high school instrumental ensemble, promotes the enjoyment and appreciation of music through performance of high-quality, intermediate-level wind and percussion literature. Rehearsals focus on development of critical listening/aural skills, individual musicianship, instrumental technique, refinement of ensemble skills, and aesthetic engagement culminating in periodic public performances.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Notes: This course requires students to participate in extra rehearsals and performances beyond the school day. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: BAND 3
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Band 4 (#1302330) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:**

	e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure.

MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, intermediate-level course, designed for students who demonstrate proficiency in woodwind, brass and/or percussion techniques, music literacy, critical listening/aural skills, and ensemble performance skills, promotes greater engagement with and appreciation for music through performance and other experiences with a broad spectrum of music, as well as creativity through composition and/or arranging.. Study includes cultivation of well-developed instrumental ensemble techniques and skills, music literacy and theory, and deeper aesthetic engagement with a wide variety of high-quality repertoire.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Notes: This course requires students to participate in extra rehearsals and performances beyond the school day. Additional experiences with small ensembles and solo performance may be available. Students who enjoy the challenges and successes of this course may wish to take an accelerated music class in the future. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: BAND 4

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Band 5 Honors (#1302340) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.

MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision.

MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.
SS.912.H.2.3:	Apply various types of critical analysis (contextual, formal, and intuitive criticism) to works in the arts, including the types and use of symbolism within art forms and their philosophical implications.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, advanced course, designed for wind and percussion students with extensive experience in solo performance and larger performing ensembles, promotes significant depth of engagement and lifelong appreciation of music through performance and other experiences with sophisticated instrumental music, as well as creativity through composition and/or arranging. The course includes the development of advanced instrumental ensemble techniques and skills, extended music literacy and theory, and deep aesthetic engagement with a broad spectrum of high-quality repertoire, ranging from early music to the contemporary. Musical independence and leadership are particularly encouraged in this setting.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Notes: Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Additional experiences with small ensembles, solo performance, and leadership opportunities may be available. Students who enjoy the challenges and successes of this course may wish to take an accelerated music class in the future. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: BAND 5 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Band 6 Honors (#1302350) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure.

MU.912.O.1.1:	**Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use

	technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, highly advanced course, designed for students with substantial experience in solo performance and larger performing ensembles, promotes significant engagement with and appreciation for music through performance of sophisticated wind and percussion literature. Study focuses on mastery of highly advanced music skills, techniques, and processes, as well as creativity through composition and/or arranging and use of current technology to enhance creativity and performance effectiveness. This course also provides significant opportunities for student leadership through peer mentoring, solo work, and participation as a performer or coach in a small or large ensemble.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Notes: Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Additional experiences with small ensembles, solo performance, and leadership opportunities may be available. Students who enjoy the challenges and successes of this course may wish to take an accelerated music class in the future. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: BAND 6 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Marching Band (#1302355) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
DA.912.C.1.2:	Apply replication, physical rehearsal, and cognitive rehearsal to aid in the mental and physical retention of patterns, complex steps, and sequences performed by another dancer. **Clarifications:** e.g., mind/body connection, watching, following, marking, visualizing, imagery, using rhythmic clues
DA.912.C.2.1:	Analyze movement from varying perspectives and experiment with a variety of creative solutions to solve technical or choreographic challenges. **Clarifications:** e.g., improvisation, trial and error, collaboration
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.O.1.3:	Dissect or assemble a step, pattern, or combination to show understanding of the movement, terminology, and progression. **Clarifications:** e.g., tendu-dégagé-grand battement-grand jeté
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
DA.912.S.2.2:	Apply corrections and concepts from previously learned steps to different material to improve processing of new information. **Clarifications:** e.g., repetition, revision, refinement, focus
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
	Analyze the movement performance of self and others.

PE.912.C.2.3:	**Clarifications:** Some examples are video analysis and checklist.
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.M.1.20:	Perform complex combinations and sequences demonstrating smooth transitions while alone, with a partner or in a small group.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students will participate in activities of their school's marching band. Activities may include, but are not limited to, the study of the chosen program of music for the season, rehearsals of the marching routine to accompany music. There are a variety of ways that students may participate and earn credit in this course. Some students may play instruments, some may work with flags, batons, or other apparatus, some may be dancers, etc.

GENERAL NOTES

Special Note: This course may require students to participate in extra rehearsals and performances beyond the school day. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302355

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: MARCHING BAND

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Orchestra 1 (#1302360) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming

LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students who have little or no orchestral experience study and perform high-quality beginning orchestra literature of diverse times and styles. Rehearsals focus on the development of critical listening skills, rudimentary string techniques, music literacy, ensemble skills, and aesthetic awareness. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level

words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: ORCH 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Orchestra 2 (#1302370) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.

MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students who have at least one year of orchestral experience study, rehearse, and perform high-quality orchestra literature. Rehearsals focus on the development of critical listening skills, basic string techniques, music literacy, ensemble skills, and aesthetic awareness in the context of relevant history and cultures. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302370

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: ORCH 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Orchestra 3 (#1302380) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing

MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build on previous orchestral experience through the study and performance of high-quality orchestra literature. Rehearsals focus on the strengthening of critical listening skills, musicianship, string techniques, ensemble skills, and aesthetic awareness in the context of relevant history and cultures. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** ORCH 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Orchestra 4 (#1302390) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration

MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x$

	– y)² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with intermediate-level proficiency in string techniques, music literacy, critical listening skills, and musicianship study, rehearse, and perform high-quality orchestra literature. Student musicians strengthen their reflective, analytical, and problem-solving skills to self-diagnose solutions to performance challenges based on their structural, historical, and cultural understanding of the music. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302390

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** ORCH 4

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Orchestra 5 Honors (#1302400) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.

MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

	Standard Relation to Course: Supporting
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with considerable orchestral experience advance their string and ensemble performance techniques, music literacy, music theory, and aesthetic engagement through high-quality orchestra literature. Student musicians use reflection and problem-solving skills to improve performance significantly based on structural, cultural, and historical understanding of the music. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** ORCH 5 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Orchestra 6 Honors (#1302410) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.3:	Analyze instruments of the world and classify them by common traits. **Clarifications:** e.g., classical and folk instruments from around the world
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:**

	e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own

MAFS.K12.MP.6.1:	reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with substantial orchestral experience focus on mastery of advanced music skills, techniques, and processes through study, rehearsal, and performance of high-quality orchestra literature. Advanced string players self-diagnose and consider multiple solutions to artistic challenges based on background knowledge of the repertoire, and explore creativity through composition, arranging, and/or use of technology. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: ORCH 6 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)

Instrumental Techniques 1 (#1302420) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven

MAFS.K12.MP.7.1:	more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this entry-level class focus on the development of musical and technical skills on a specific instrument through etudes, scales, and selected music literature. Through problem-solving, critical thinking, and reflection, students develop the physical and cognitive skills to be more disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >
Abbreviated Title: INSTRU TECNQS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Instrumental Techniques 2 (#1302430) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently,

	express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this novice-level class continue to develop musical and technical skills on a specific instrument through developmentally appropriate solo literature, etudes, scales, and exercises. Through problem-solving, critical thinking, and reflection, students develop the physical and cognitive skills necessary to be more disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302430

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: INSTRU TECNQS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Instrumental Techniques 3 (#1302440) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this intermediate-level class develop their musical and technical skills further on a specific instrument, and expand their technical and performance skills, enhanced by historical and cultural background knowledge of the music. Students explore more demanding solo literature, etudes, and technical exercises with increasing independence. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302440

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** INSTRU TECNQS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Instrumental Techniques 4 Honors (#1302450) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as

LAFS.1112.SL.1.1:	needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this advanced class refine their musicianship and performance skills on a specified instrument. Students prepare for post-secondary and community music experiences and develop artistry independently through a variety of advanced solos, etudes, and excerpts. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302450

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: INSTRU TECNQS 4 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Instrumental Ensemble 1 (#1302460) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own

MAFS.K12.MP.6.1:	reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no experience in an instrumental ensemble develop basic musicianship and ensemble performance skills through the study of basic, high-quality music in diverse styles. Student musicians focus on building foundational music techniques, music literacy, listening skills, and aesthetic awareness. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302460

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** INSTRU ENS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Instrumental Ensemble 2 (#1302470) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous instrumental ensemble experience continue building musicianship and performance skills through the study of high-quality music in diverse styles. Student musicians learn to self-assess and collaborate as they rehearse, perform, and study relevant musical styles and time periods. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302470

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** INSTRU ENS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Instrumental Ensemble 3 (#1302480) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.

MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students strengthen instrumental ensemble performance skills, music literacy, and analytical skills through the study of high-quality music in diverse styles. Student musicians learn to self-assess and collaborate as they rehearse, perform, and study relevant history and cultures. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302480

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: INSTRU ENS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Instrumental Ensemble 4 Honors (#1302490) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing

MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**

DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with extensive instrumental ensemble experience refine their critical listening, music literacy, and ensemble skills through the study, rehearsal, and performance of high-quality, advanced literature. Students use reflection and problem-solving skills with increasing independence to improve their performance and musical expression. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302490

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music > **Abbreviated Title:** INSTRU ENS 4 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Jazz Ensemble 1 (#1302500) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with experience on an instrument suited for jazz ensemble explore the fundamentals of performance practices, improvisation, and music theory through a diverse repertoire of high-quality jazz literature. Students learn the basics of foundational jazz styles, use chord symbols, develop knowledge of musical structure, and study the history of jazz and its iconic musicians. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: JAZZ ENS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Jazz Ensemble 2 (#1302510) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.

LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with jazz experience become conversant with basic chord progressions and the scale/chord relationship, strengthen aural skills, and learn to improvise and compose melodies over progressions as they rehearse, perform, and study high-quality jazz ensemble literature. Musicians study jazz history and become familiar with the cultural context of various compositions and artists. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area

concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302510

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: JAZZ ENS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Jazz Ensemble 3 (#1302520) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:**

	e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with considerable jazz experience become conversant with more complex forms and harmonic progressions, and strengthen their aural and improvisational skills as they rehearse, perform, and study high-quality jazz ensemble literature. Musicians apply their theory skills to arranging, transposition, and composing; and study various periods, cultural contexts, compositions, and artists in jazz history. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302520

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: JAZZ ENS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Jazz Ensemble 4 Honors (#1302530) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.

MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently,

	express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with significant jazz experience become highly conversant with complex harmonic structures; compose or arrange for small groups; improvise over various forms, keys, and styles; and are knowledgeable about the professional jazz scene and its icons. Musicians study the impact of technology on jazz and the music industry, and learn the basics of sound reinforcement for solo and ensemble performance. In keeping with the rigor expected in an Honors course, students undertake independent study that includes synthesis of learning and experience. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Students in this class may need to obtain (e.g., borrow, rent, purchase) an instrument from an outside source.

GENERAL NOTES

Honors and Advanced Level Course Note: Academic rigor is more than simply assigning to students a greater quantity of work. Through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted, students are challenged to think and collaborate critically on the content they are learning.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1302530

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Instrumental Music >

Abbreviated Title: JAZZ ENS 4 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

M/J Chorus 1 (#1303000) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.4:	Identify, aurally, a variety of vocal styles and ensembles. **Clarifications:** e.g., chant, spiritual, folk, opera, world, jazz, pop, solo, duet, trio, quartet, small ensembles, choirs
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no choral experience develop beginning vocal technique and skills, critical and creative thinking skills, and an appreciation of music from around the world and through time. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: M/J CHORUS 1

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Chorus 2 (#1303010) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.4:	Identify, aurally, a variety of vocal styles and ensembles. **Clarifications:** e.g., chant, spiritual, folk, opera, world, jazz, pop, solo, duet, trio, quartet, small ensembles, choirs
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming

MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build on previous choral experience to expand vocal, technical, musical, and ensemble skills through rehearsal, performance, and study of high-quality choral literature. Singers focus on increasing knowledge of music theory, music literacy, and aesthetic response. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: M/J CHORUS 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Chorus 3 (#1303020) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:**

	e.g., blues, rock
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and

	can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous choral experience build intermediate-level knowledge of vocal technique, musical literacy, ensemble skills, and related musical knowledge through rehearsal, performance, and study of a variety of high-quality 2-, 3-, and 4-part choral literature. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: M/J CHORUS 3

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Chorus 4 (#1303030) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.1.4:	Identify, aurally, a variety of vocal styles and ensembles. **Clarifications:** e.g., chant, spiritual, folk, opera, world, jazz, pop, solo, duet, trio, quartet, small ensembles, choirs
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.3:	Describe how American music has been influenced by other cultures.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.1.5:	Using representative musical works by selected composers, classify compositional characteristics common to a specific time period and/or genre.
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
	Create a composition, manipulating musical elements and exploring the effects of those manipulations.

MU.68.O.2.1:	**Clarifications:** e.g., using electronic or paper-and-pencil means to experiment with timbre, melody, rhythm, harmony, form, tonality
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.2:	Compose a short musical piece. **Clarifications:** e.g., using traditional, non-traditional, digital, or classroom instruments and/or voice
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other

	mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with significant experience in a choral ensemble develop advanced knowledge of vocal techniques, music literacy, ensemble skills, and related musical knowledge through rehearsal, performance, and study of a variety of high-quality advanced choral literature. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: M/J CHORUS 4

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Vocal Techniques 1 (#1303070) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**

LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no vocal experience develop musicianship, technical proficiency, and performance skills. Beginning musicians focus on development of skills and techniques through scales, etudes, and solo literature. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >
Abbreviated Title: M/J VOCAL TECNQS 1
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Vocal Techniques 2 (#1303080) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.

	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques.
MU.68.S.3.6:	**Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build on previous instruction to strengthen their musicianship, technique, and performance skills through preparation of scales, etudes, and solo literature. Through problem-solving, critical thinking, and reflection, students develop the physical and cognitive skills necessary to be more disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area

concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: M/J VOCAL TECNQS 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Vocal Ensemble 1 (#1303100) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

	Standard Relation to Course: Supporting
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no small vocal ensemble experience develop musicianship and performance skills as they study, rehearse, and perform high-quality ensemble literature in diverse styles. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >
Abbreviated Title: M/J VOCAL ENS 1

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Vocal Ensemble 2 (#1303110) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
	Sight-read standard exercises and simple repertoire.

MU.68.S.3.3:	**Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous vocal ensemble experience continue to build musicianship and performance skills through the study, rehearsal, and performance of high-quality ensemble literature in a variety of styles. Student musicians learn to self-assess and collaborate as they study relevant musical styles and time periods. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303110

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: M/J VOCAL ENS 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Vocal Ensemble 3 (#1303120) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.

MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students continue to build musicianship and performance skills through the study, rehearsal, and performance of increasingly challenging, high-quality vocal ensemble literature. Student musicians strengthen their techniques, ensemble skills, music literacy, and analytical skills as they study relevant history, cultures, and music genres. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303120

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: M/J VOCAL ENS 3

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Music Technology (#1303150) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.3:	Critique personal composition and/or improvisation, using simple criteria, to generate improvements with guidance from teachers and/or peers.
MU.68.F.1.1:	Create a composition and/or performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.68.F.1.2:	Create an original composition that reflects various performances that use "traditional" and contemporary technologies. **Clarifications:** e.g., MIDI, Internet video resources, personal digital assistants, MP3 players, cell phones, digital recording, music software
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.F.3.3:	Identify the tasks involved in the compositional process and discuss how the process might be applied in the work place. **Clarifications:** e.g., idea, development, editing, selling, revising, testing, presenting
MU.68.H.2.2:	Analyze how technology has changed the way music is created, performed, acquired, and experienced. **Clarifications:** e.g., from harpsichord to piano; from phonograph to CD
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.2.1:	Create a composition, manipulating musical elements and exploring the effects of those manipulations. **Clarifications:** e.g., using electronic or paper-and-pencil means to experiment with timbre, melody, rhythm, harmony, form, tonality
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.2:	Compose a short musical piece. **Clarifications:** e.g., using traditional, non-traditional, digital, or classroom instruments and/or voice
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.8:	Demonstrate specified mixing and editing techniques using selected software and hardware.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.68.S.2.1:	Sustain focused attention, respect, and discipline during classes and performances.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students investigate the fundamental applications, tools, history, and aesthetics of music technology. Student musicians explore traditional, current, and emerging technologies, including personal devices; and use them to explore, capture, create, arrange, manipulate, reproduce, and distribute music. Public performances may serve as a resource for specific instructional goals. Students may be expected to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303150

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** Music Technology >
Abbreviated Title: M/J MUSIC TECH
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

M/J Music Ensemble 1 (#1303200) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

	Standard Relation to Course: Supporting
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no small vocal or instrumental ensemble experience develop musicianship and performance skills as they study, rehearse, and perform high-quality ensemble literature in diverse styles. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303200

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J MUSIC ENS 1
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved
Grade Level(s): 6,7,8

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Music Ensemble 2 (#1303210) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.F.2.1:	Describe several routes a composition or performance could travel from creator to consumer. **Clarifications:** e.g., MIDI and other technology, production, sharing on the Internet, home studios, professional recording studios, sales
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
	Sight-read standard exercises and simple repertoire.

MU.68.S.3.3:	**Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous vocal or instrumental ensemble experience continue to build musicianship and performance skills through the study, rehearsal, and performance of high-quality ensemble literature in a variety of styles. Student musicians learn to self-assess and collaborate as they study relevant musical styles and time periods. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303210

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: M/J MUSIC ENS 2

Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Music Ensemble 3 (#1303220) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.C.3.1:	Apply specific criteria to evaluate why a musical work is an exemplar in a specific style or genre.
MU.68.F.2.2:	Describe how concert attendance can financially impact a community. **Clarifications:** e.g., increased revenues at restaurants, hotels, and travel agencies; venue maintenance, parking attendants
MU.68.F.3.1:	Describe how studying music can enhance citizenship, leadership, and global thinking. **Clarifications:** e.g., dedication to mastering a task, problem-solving, self-discipline, dependability, ability to organize, cultural awareness, mutual respect
MU.68.F.3.2:	Investigate and discuss laws that protect intellectual property, and practice safe, legal, and responsible acquisition and use of musical media.
MU.68.H.1.1:	Describe the functions of music from various cultures and time periods.
MU.68.H.1.2:	Identify the works of representative composers within a specific style or time period.
MU.68.H.1.4:	Classify authentic stylistic features in music originating from various cultures. **Clarifications:** e.g., rhythm, layered texture, key patterns, tonality, melodic line, quarter- or semi-tones, national folk melodies, improvisation, instrumentation, aural/oral traditions, drumming patterns
MU.68.H.2.1:	Describe the influence of historical events and periods on music composition and performance.
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.H.3.1:	Identify connections among music and other content areas and/or contexts through interdisciplinary collaboration. **Clarifications:** e.g., school: other music classes, social studies, dance, physical education, science, health, math, world languages; community: cultural connections and traditions, ceremonial music, sales and advertising, communication
MU.68.H.3.2:	Discuss how the absence of music would affect other content areas and contexts. **Clarifications:** e.g., theatre and dance, movies, sporting events, video games, commercial advertising, social gatherings, civic and religious ceremonies, plays
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.2.2:	Demonstrate knowledge of major and minor tonalities through performance and composition. **Clarifications:** e.g., scales; key signatures; relative major/minor; parallel major/minor
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.O.3.2:	Perform the expressive elements of a musical work indicated by the musical score and/or conductor, and transfer new knowledge and experiences to other musical works.
MU.68.S.1.3:	Arrange a short musical piece by manipulating melody, form, rhythm, and/or voicing.
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.

MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students continue to build musicianship and performance skills through the study, rehearsal, and performance of increasingly challenging, high-quality vocal or instrumental ensemble literature. Student musicians strengthen their techniques, ensemble skills, music literacy, and analytical skills as they study relevant history, cultures, and music genres. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303220

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >
Abbreviated Title: M/J MUSIC ENS 3
Course Length: Year (Y)
Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Music Techniques 1 (#1303230) 2020 - 2022 (current)

Course Standards

Name	Description
MU.68.C.1.1:	Develop strategies for listening to unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.68.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of a performance to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, peer group and individual performances, composer notes, instrumentation, expressive elements, title
MU.68.C.2.1:	Critique personal performance, experiment with a variety of solutions, and make appropriate adjustments with guidance from teachers and peers. **Clarifications:** e.g., intonation, balance, blend, phrasing, rhythm
MU.68.C.2.2:	Critique, using correct music vocabulary, changes in one's own or others' musical performance resulting from practice or rehearsal. **Clarifications:** e.g., blend, balance, ensemble playing, sonority, technique, tone quality
MU.68.H.2.3:	Classify the literature being studied by genre, style, and/or time period.
MU.68.O.1.1:	Compare performances of a musical work to identify artistic choices made by performers. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, expressive elements; choral, orchestral, band, ensemble
MU.68.O.3.1:	Describe how the combination of instrumentation and expressive elements in a musical work can convey a specific thought, idea, mood, and/or image. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre, rhythm, orchestration
MU.68.S.1.1:	Improvise rhythmic and melodic phrases to accompany familiar songs and/or standard harmonic progressions. **Clarifications:** e.g., blues, rock
MU.68.S.1.4:	Sing or play melodies by ear with support from the teacher and/or peers. **Clarifications:** e.g., melodies using traditional classroom instruments and/or voice
MU.68.S.2.1:	Perform music from memory to demonstrate knowledge of the musical structure. **Clarifications:** e.g., basic themes, patterns, tonality, melody, harmony
MU.68.S.2.2:	Transfer performance techniques from familiar to unfamiliar pieces.
MU.68.S.3.1:	Sing and/or play age-appropriate repertoire expressively. **Clarifications:** e.g., technique, phrasing, dynamics, tone quality, blend, balance, intonation, kinesthetic support/response
MU.68.S.3.2:	Demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
MU.68.S.3.3:	Sight-read standard exercises and simple repertoire. **Clarifications:** e.g., note and rest values, key signatures, time signatures, expressive markings, special harmonic and/or notation symbols
MU.68.S.3.4:	Compare written notation to aural examples and analyze for accuracy of rhythm and pitch. **Clarifications:** e.g., error detection, interval reinforcement
MU.68.S.3.5:	Notate rhythmic phrases and/or melodies, in varying simple meters, performed by someone else.
MU.68.S.3.6:	Develop and demonstrate efficient rehearsal strategies to apply skills and techniques. **Clarifications:** e.g., independently, collaboratively
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. **Standard Relation to Course: Supporting**

LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no instrumental or vocal experience develop musicianship, technical proficiency, and performance skills. Beginning musicians focus on development of skills and techniques through scales, etudes, and solo literature. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental class, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303230

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Music Education > **SubSubject:** General Music >
Abbreviated Title: M/J MUSIC TECNQS 1
Course Length: Year (Y)

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Chorus 1 (#1303300) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:**

	e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, entry-level class, designed for students with little or no choral experience, promotes the enjoyment and appreciation of music through performance of beginning choral repertoire from a variety of times and places. Rehearsals focus on the development of critical listening skills; foundational instrumental technique and skills, music literacy, and ensemble skills; and aesthetic musical awareness culminating in periodic public performances.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Note: This course may require students to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music > **Abbreviated Title:** CHORUS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Chorus 2 (#1303310) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:**

	e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, beginning-level class, designed for students with one year of experience or less in a choral performing group, promotes the enjoyment and appreciation of music through performance of basic, high-quality choral music. Rehearsals focus on the development of critical listening/aural skills; foundational instrumental technique and skills, music literacy, and ensemble skills; and aesthetic musical awareness culminating in periodic public performances.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Note: This course may require students to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music > **Abbreviated Title:** CHORUS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Chorus 3 (#1303320) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:**

	e.g., using text or scat syllables
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

	Standard Relation to Course: Supporting
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, formative class, designed for students with previous participation in a school chorus who have basic knowledge of note-reading and vocal technique, concentrates on providing students opportunities to strengthen existing skills in critical listening, vocal techniques, and ensemble performance using high-quality three- and four-part choral literature. Rehearsals focus on gaining independence in music literacy and aesthetic engagement through critical listening and thinking skills.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Note: This course requires students to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music > **Abbreviated Title:** CHORUS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Chorus 4 (#1303330) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
	Arrange a musical work by manipulating two or more aspects of the composition.

MU.912.S.1.3:	**Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

	Standard Relation to Course: Supporting
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, intermediate-level class is designed for students with previous participation in a high school chorus and moderate skills in critical listening, vocal techniques, music literacy, and choral performance. Rehearsals focus on enhancing these skills and students' aesthetic engagement with music through a variety of high-quality three- and four-part choral literature, providing students with the means to learn how to reflect and use a combination of analytical, assessment, and problem-solving skills consistently to improve their own and others' performance.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Note: This course requires students to participate in extra rehearsals and performances beyond the school day. Additional experiences with small ensembles and solo performance may be available. Students who enjoy the challenges and successes of this course may wish to take an accelerated music class in the future.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music > **Abbreviated Title:** CHORUS 4

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Chorus 5 Honors (#1303340) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public

	speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, advanced class is designed for students with previous participation in a high school chorus who have demonstrated a capacity for developing advanced listening/aural skills and advanced knowledge of vocal techniques, musical literacy, and choral performance. Chorus V focuses on development and application of these skills and provides opportunities for aesthetic engagement and making individual musical choices, where appropriate, while preparing a variety of high-quality choral literature.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Notes: Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Additional experiences with small ensembles, solo performance, and leadership opportunities may be available. Students who enjoy the challenges and successes of this course may wish to take an accelerated music class in the future.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 1303340

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: CHORUS 5 HON

Course Length: Year (Y)

Course Attributes:

- Honors

Course Level: 3

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Chorus 6 Honors (#1303350) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.1.2:	Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts.

MU.912.H.3.2:	**Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software.

MAFS.K12.MP.5.1:	Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.

General Course Information and Notes

VERSION DESCRIPTION

This year-long, very advanced class is designed for students who have demonstrated a capacity for developing very advanced listening/aural skills and performance techniques, as well as very advanced knowledge of vocal techniques, musical literacy, ensemble skills, and related musical knowledge. Chorus VI focuses on managing, mastering, and refining these skills and techniques through a variety of high-quality choral literature at a high level of aesthetic engagement. Musical independence and student leadership are promoted through significant opportunities for peer mentoring, solo work, and participation as a performer, conductor, or coach in a small or large ensemble.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Note: Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. Additional experiences with small ensembles, solo performance, and leadership opportunities may be available. Students who enjoy the challenges and successes of this course may wish to take an accelerated music class in the future.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: CHORUS 6 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Chorus Register-specific 1 (#1303360) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this entry-level class focus on the rehearsal, performance, and study of high-quality music literature for singers of a similar voice range. As they address the technical needs of singers in a specific range of notes, they learn beginning music theory, musicianship, and choral performance skills. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >
Abbreviated Title: CHORUS REG-SPEC 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Chorus Register-specific 2 (#1303370) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming

LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with prior choral or vocal instruction focus on developing skills to perform high-quality literature with singers in a similar vocal range. Through two- and three-part music, students build musicianship and choral ensemble skills. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level

words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303370

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: CHORUS REG-SPEC 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Chorus Register-specific 3 (#1303380) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.

MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students continue to build on previous choral experience to develop skills to perform increasingly challenging, high-quality literature for singers in a similar vocal range. As singers explore two-, three-, and four-part literature in its historical and cultural context, they enhance their musicianship and choral ensemble skills. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and

assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >
Abbreviated Title: CHORUS REG-SPEC 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Chorus Register-specific 4 Honors (#1303390) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.1.4:	Compare and perform a variety of vocal styles and ensembles.
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.4:	Analyze how Western music has been influenced by historical and current world cultures.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.3:	Analyze the evolution of a music genre. **Clarifications:** e.g., jazz, blues
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.H.3.2:	Combine personal interest with skills and knowledge from a non-music class to explore, design, and present a music-based or music-enhanced topic of interest to demonstrate the ability to make transfers across contexts. **Clarifications:** e.g., music and health, Holocaust, tolerance, African American history, world languages, scientific research, data analysis, problem-solving, public speaking
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied

	meaning of the composer/performer.
MU.912.O.3.1:	**Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.1:	Improvise rhythmic and melodic phrases over harmonic progressions. **Clarifications:** e.g., using text or scat syllables
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.3:	Transcribe aurally presented songs into melodic and/or rhythmic notation to show synthesis of aural and notational skills.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision.

MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build and refine technical and expressive skills through the study, rehearsal, and performance of high-quality literature for singers in a similar vocal range. As singers explore three- and four-part literature in its historical and cultural context, they develop advanced musicianship and choral ensemble skills. In keeping with the rigor expected in an Honors course, students undertake independent study that includes synthesis of learning and experience. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303390

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: CHORUS REG-SPEC 4 H

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Vocal Techniques 1 (#1303400) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven

MAFS.K12.MP.7.1:	more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this entry-level class focus on the development of musical and technical skills on a specific voice through etudes, scales, and selected music literature. Through problem-solving, critical thinking, and reflection, students develop the physical and cognitive skills to be more disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >
Abbreviated Title: VOCAL TECNQS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Vocal Techniques 2 (#1303410) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently,

	express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this novice-level class continue to develop musical and technical skills on a specific voice through developmentally appropriate solo literature, etudes, scales, and exercises. Through problem-solving, critical thinking, and reflection, students develop the physical and cognitive skills necessary to be more disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: VOCAL TECNQS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Vocal Techniques 3 (#1303420) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this intermediate-level class develop their musical and technical skills further on a specific voice, and expand their technical and performance skills, enhanced by historical and cultural background knowledge of the music. Students explore more demanding solo literature, etudes, and technical exercises with increasing independence. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music > **Abbreviated Title:** VOCAL TECNQS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Techniques 4 Honors (#1303430) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.2.2:	Transpose melodies into different modalities through performance and composition.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as

LAFS.1112.SL.1.1:	needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this advanced class refine their musicianship and performance skills on a specified voice. Students prepare for post-secondary and community music experiences and develop artistry independently through a variety of advanced solos, etudes, and excerpts. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional

purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303430

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: VOCAL TECNQS 4 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Vocal Ensemble 1 (#1303440) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision.

MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no experience in a vocal ensemble develop basic musicianship and ensemble performance skills through the study of basic, high-quality music in diverse styles. Student musicians focus on building foundational music techniques, music literacy, listening skills, and aesthetic awareness. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303440

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music > **Abbreviated Title:** VOCAL ENS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Vocal Ensemble 2 (#1303450) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.

MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous vocal ensemble experience continue building musicianship and performance skills through the study of high-quality music in diverse styles. Student musicians learn to self-assess and collaborate as they rehearse, perform, and study relevant musical styles and time periods. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303450

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >
Abbreviated Title: VOCAL ENS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Vocal Ensemble 3 (#1303460) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.

MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students strengthen vocal ensemble performance skills, music literacy, and analytical skills through the study of high-quality music in diverse styles. Student musicians learn to self-assess and collaborate as they rehearse, perform, and study relevant history and cultures. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303460

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >
Abbreviated Title: VOCAL ENS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Vocal Ensemble 4 Honors (#1303470) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing

MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.

DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with extensive vocal ensemble experience refine their critical listening, music literacy, and ensemble skills through the study, rehearsal, and performance of high-quality, advanced literature. Students use reflection and problem-solving skills with increasing independence to improve their performance and musical expressivity. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1303470

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Choral Music >

Abbreviated Title: VOCAL ENS 4 HON

Course Length: Year (Y)

Course Attributes:

- Honors

Course Level: 3

Educator Certifications

Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Music Technology and Sound Engineering 1 (#1304300) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.2:	Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.5:	Research and report on the impact of MIDI as an industry-standard protocol.
MU.912.S.1.7:	Combine and/or create virtual and audio instruments.
MU.912.S.1.8:	Record, mix, and edit a recorded performance.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.912.A-CED.1.1:	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. ★ **Standard Relation to Course: Supporting**
MAFS.912.A-CED.1.2:	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★ **Standard Relation to Course: Supporting**
MAFS.912.A-CED.1.3:	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* ★ **Standard Relation to Course: Supporting**

MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students explore the fundamental applications and tools of music technology and sound engineering. As they create and learn its terminology, students also learn the history and aesthetic development of technology used to capture, create, and distribute music. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1304300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Music Technology >

Abbreviated Title: MUS TECH & SO ENG 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Music Technology and Sound Engineering 2 (#1304310) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.2.3:	Evaluate one's own or other's compositions and/or improvisations and generate improvements independently or cooperatively.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.2:	Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.H.3.1:	Apply knowledge of science, math, and music to demonstrate, through an acoustic or digital performance medium, how sound production affects musical performance. **Clarifications:** e.g., acoustics, sound amplification, materials, mechanics
MU.912.S.1.2:	Compose music for voices and/or acoustic, digital, or electronic instruments.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.5:	Research and report on the impact of MIDI as an industry-standard protocol.
MU.912.S.1.7:	Combine and/or create virtual and audio instruments.
MU.912.S.1.8:	Record, mix, and edit a recorded performance.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and

MAFS.912.A-CED.1.1:	simple rational, absolute, and exponential functions. ★ **Standard Relation to Course: Supporting**
MAFS.912.A-CED.1.2:	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★ **Standard Relation to Course: Supporting**
MAFS.912.A-CED.1.3:	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* ★ **Standard Relation to Course: Supporting**
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students build on previous experience with the fundamentals of music technology and sound engineering to integrate their knowledge of traditional musical elements with past and current technologies used to capture, create, mix, and present music. They explore the creative and aesthetic implications of music technology and sound engineering through class work. Public performances may serve as a resource for specific instructional goals. Students may be required to attend one or more performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1304310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Music Technology >

Abbreviated Title: MUS TECH & SO ENG 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Eurhythmics 1 (#1305300) 2015 - 2022 (current)

Course Standards

Name	Description
DA.912.C.1.2:	Apply replication, physical rehearsal, and cognitive rehearsal to aid in the mental and physical retention of patterns, complex steps, and sequences performed by another dancer. **Clarifications:** e.g., mind/body connection, watching, following, marking, visualizing, imagery, using rhythmic clues
DA.912.C.2.3:	Develop a plan to improve technique, performance quality, and/or compositional work with artistic intent.
DA.912.F.3.6:	Practice conditioning methods that complement the physical instrument, and determine the degree of personal improvement in established dance techniques. **Clarifications:** e.g., Feldenkrais, Bartenieff, Pilates, yoga, cardio routines
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.O.1.2:	Apply standards of class and performance etiquette consistently to attain optimal working conditions. **Clarifications:** e.g., appropriate attire, professional respect, traditions, procedures
DA.912.O.3.1:	Perform dance pieces to express feelings, ideas, cultural identity, music, and other abstract concepts through movements, steps, pantomime, and gestures.
DA.912.O.3.2:	Use imagery, analogy, and metaphor to improve body alignment and/or enhance the quality of movements, steps, phrases, or dances.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
DA.912.S.2.4:	Demonstrate retention of directions, corrections, and memorization of dance from previous rehearsals and classes.
DA.912.S.3.2:	Develop and maintain flexibility, strength, and stamina for wellness and performance.
DA.912.S.3.4:	Perform dance vocabulary with musicality and sensitivity. **Clarifications:** e.g., on the counts, fill the music, emulate musical nuance
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer.

MU.912.O.3.1:	**Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
PE.912.C.2.2:	Apply terminology and etiquette in dance.
PE.912.C.2.3:	Analyze the movement performance of self and others. **Clarifications:** Some examples are video analysis and checklist.
PE.912.C.2.5:	Analyze the relationship between music and dance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Student dancers develop basic skills in performing and evaluating choreographed performances as an independent ensemble and in cooperation with a music ensemble. Emphasis is placed on dance, equipment manipulation, precision, and the relationship between music and dance. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1305300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Eurythmics >

Abbreviated Title: EURHY 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Eurhythmics 2 (#1305310) 2015 - 2022 (current)

Course Standards

Name	Description
DA.912.C.1.2:	Apply replication, physical rehearsal, and cognitive rehearsal to aid in the mental and physical retention of patterns, complex steps, and sequences performed by another dancer. **Clarifications:** e.g., mind/body connection, watching, following, marking, visualizing, imagery, using rhythmic clues
DA.912.C.2.2:	Make informed critical assessments of the quality and effectiveness of one's own technique and performance quality, based on criteria developed from a variety of sources, to support personal competence and artistic growth. **Clarifications:** e.g., exemplary models, critical processes, background knowledge, experience, self-assessment, constructive criticism, comparison to other works
DA.912.C.2.3:	Develop a plan to improve technique, performance quality, and/or compositional work with artistic intent.
DA.912.F.3.6:	Practice conditioning methods that complement the physical instrument, and determine the degree of personal improvement in established dance techniques. **Clarifications:** e.g., Feldenkrais, Bartenieff, Pilates, yoga, cardio routines
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.O.1.2:	Apply standards of class and performance etiquette consistently to attain optimal working conditions. **Clarifications:** e.g., appropriate attire, professional respect, traditions, procedures
DA.912.O.3.1:	Perform dance pieces to express feelings, ideas, cultural identity, music, and other abstract concepts through movements, steps, pantomime, and gestures.
DA.912.O.3.2:	Use imagery, analogy, and metaphor to improve body alignment and/or enhance the quality of movements, steps, phrases, or dances.
DA.912.S.1.2:	Generate choreographic ideas through improvisation and physical brainstorming.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
DA.912.S.2.4:	Demonstrate retention of directions, corrections, and memorization of dance from previous rehearsals and classes.
DA.912.S.3.2:	Develop and maintain flexibility, strength, and stamina for wellness and performance.
DA.912.S.3.4:	Perform dance vocabulary with musicality and sensitivity. **Clarifications:** e.g., on the counts, fill the music, emulate musical nuance
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.

LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
PE.912.C.2.2:	Apply terminology and etiquette in dance.
PE.912.C.2.3:	Analyze the movement performance of self and others. **Clarifications:** Some examples are video analysis and checklist.
PE.912.C.2.5:	Analyze the relationship between music and dance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Student dancers build on previous experience to perform and evaluate choreographed performances as an independent ensemble and in cooperation with a music ensemble. Students focus on strengthening dance skills, equipment manipulation, precision, and the relationship between music and dance. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1305310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Eurythmics >

Abbreviated Title: EURHY 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Eurhythmics 3 (#1305320) 2015 - 2022 (current)

Course Standards

Name	Description
DA.912.C.1.2:	Apply replication, physical rehearsal, and cognitive rehearsal to aid in the mental and physical retention of patterns, complex steps, and sequences performed by another dancer. **Clarifications:** e.g., mind/body connection, watching, following, marking, visualizing, imagery, using rhythmic clues
DA.912.C.1.4:	Weigh and discuss the personal significance of using both physical and cognitive rehearsal over time to strengthen one's own retention of patterns, complex steps, and sequences for rehearsal and performance.
DA.912.C.2.2:	Make informed critical assessments of the quality and effectiveness of one's own technique and performance quality, based on criteria developed from a variety of sources, to support personal competence and artistic growth. **Clarifications:** e.g., exemplary models, critical processes, background knowledge, experience, self-assessment, constructive criticism, comparison to other works
DA.912.C.2.3:	Develop a plan to improve technique, performance quality, and/or compositional work with artistic intent.
DA.912.C.3.1:	Critique the quality and effectiveness of performances based on exemplary models and self-established criteria. **Clarifications:** e.g., use of movements, elements, principles of design, lighting, costumes, music
DA.912.C.3.2:	Assess artistic or personal challenges, holistically and in parts, to explore and weigh potential solutions to problems in technique or composition. **Clarifications:** e.g., time management, refining dance steps, research
DA.912.F.2.1:	Investigate and report potential careers, requirements for employment, markets, potential salaries, and the degree of competition in dance and dance-related fields. **Clarifications:** e.g., dancer, teacher, artistic director, stage manager, videographer, costumer, agent, Pilates teacher, dance therapist, nutritionist
DA.912.F.3.6:	Practice conditioning methods that complement the physical instrument, and determine the degree of personal improvement in established dance techniques. **Clarifications:** e.g., Feldenkrais, Bartenieff, Pilates, yoga, cardio routines
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.H.1.1:	Explore and select music from a broad range of cultures to accompany, support, and/or inspire choreography.
DA.912.H.1.3:	Adhere to copyright laws for choreography and music licensing to show respect for the intellectual property of others.
DA.912.H.3.3:	Explain the importance of proper nutrition, injury prevention, and safe practices to optimal performance and the life-long health of a dancer.
DA.912.O.1.2:	Apply standards of class and performance etiquette consistently to attain optimal working conditions. **Clarifications:** e.g., appropriate attire, professional respect, traditions, procedures
DA.912.O.3.1:	Perform dance pieces to express feelings, ideas, cultural identity, music, and other abstract concepts through movements, steps, pantomime, and gestures.
DA.912.O.3.2:	Use imagery, analogy, and metaphor to improve body alignment and/or enhance the quality of movements, steps, phrases, or dances.
DA.912.S.1.2:	Generate choreographic ideas through improvisation and physical brainstorming.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
DA.912.S.2.2:	Apply corrections and concepts from previously learned steps to different material to improve processing of new information. **Clarifications:** e.g., repetition, revision, refinement, focus
DA.912.S.2.4:	Demonstrate retention of directions, corrections, and memorization of dance from previous rehearsals and classes.
DA.912.S.3.2:	Develop and maintain flexibility, strength, and stamina for wellness and performance.
DA.912.S.3.4:	Perform dance vocabulary with musicality and sensitivity. **Clarifications:** e.g., on the counts, fill the music, emulate musical nuance
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment

MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure.

MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
PE.912.C.2.2:	Apply terminology and etiquette in dance.
PE.912.C.2.3:	Analyze the movement performance of self and others. **Clarifications:** Some examples are video analysis and checklist.
PE.912.C.2.5:	Analyze the relationship between music and dance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Student dancers strengthen their performance and evaluative skills, and explore the basic processes of designing choreography for an independent ensemble or in cooperation with a music ensemble. Students develop more sophisticated dance skills and equipment manipulation. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1305320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Eurythmics > **Abbreviated Title:** EURHY 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Eurhythmics 4 (#1305330) 2015 - 2022 (current)

Course Standards

Name	Description
DA.912.C.1.2:	Apply replication, physical rehearsal, and cognitive rehearsal to aid in the mental and physical retention of patterns, complex steps, and sequences performed by another dancer. **Clarifications:** e.g., mind/body connection, watching, following, marking, visualizing, imagery, using rhythmic clues
DA.912.C.1.3:	Develop and articulate criteria for use in critiquing dance, drawing on background knowledge and personal experience, to show independence in one's response. **Clarifications:** e.g., journal entries, discussion
DA.912.C.1.4:	Weigh and discuss the personal significance of using both physical and cognitive rehearsal over time to strengthen one's own retention of patterns, complex steps, and sequences for rehearsal and performance.
DA.912.C.2.1:	Analyze movement from varying perspectives and experiment with a variety of creative solutions to solve technical or choreographic challenges. **Clarifications:** e.g., improvisation, trial and error, collaboration
DA.912.C.2.2:	Make informed critical assessments of the quality and effectiveness of one's own technique and performance quality, based on criteria developed from a variety of sources, to support personal competence and artistic growth. **Clarifications:** e.g., exemplary models, critical processes, background knowledge, experience, self-assessment, constructive criticism, comparison to other works
DA.912.C.2.3:	Develop a plan to improve technique, performance quality, and/or compositional work with artistic intent.
DA.912.C.2.4:	Evaluate nuances of movement and their relationship to style, choreographic elements, and/or other dancers, and apply this knowledge to alter personal performance.
DA.912.C.3.1:	Critique the quality and effectiveness of performances based on exemplary models and self-established criteria. **Clarifications:** e.g., use of movements, elements, principles of design, lighting, costumes, music
DA.912.C.3.2:	Assess artistic or personal challenges, holistically and in parts, to explore and weigh potential solutions to problems in technique or composition. **Clarifications:** e.g., time management, refining dance steps, research
DA.912.F.1.3:	Employ acquired knowledge to stimulate creative risk-taking and broaden one's own dance technique, performance, and choreography.
DA.912.F.2.1:	Investigate and report potential careers, requirements for employment, markets, potential salaries, and the degree of competition in dance and dance-related fields. **Clarifications:** e.g., dancer, teacher, artistic director, stage manager, videographer, costumer, agent, Pilates teacher, dance therapist, nutritionist
DA.912.F.3.1:	Demonstrate leadership and responsibility through designing choreography, planning rehearsals, or directing a dance piece.
DA.912.F.3.2:	Synthesize information and make use of a variety of experiences and resources from outside dance class to inform and inspire one's work as a dancer. **Clarifications:** e.g., private studio work, school subjects, athletics, outside interests, news, personal life, music, poetry, environment
DA.912.F.3.6:	Practice conditioning methods that complement the physical instrument, and determine the degree of personal improvement in established dance techniques. **Clarifications:** e.g., Feldenkrais, Bartenieff, Pilates, yoga, cardio routines
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.H.1.1:	Explore and select music from a broad range of cultures to accompany, support, and/or inspire choreography.
DA.912.H.1.2:	Study dance works created by artists of diverse backgrounds, and use their work as inspiration for performance or creating new works.
DA.912.H.1.3:	Adhere to copyright laws for choreography and music licensing to show respect for the intellectual property of others.
DA.912.H.3.3:	Explain the importance of proper nutrition, injury prevention, and safe practices to optimal performance and the life-long health of a dancer.
DA.912.O.1.2:	Apply standards of class and performance etiquette consistently to attain optimal working conditions. **Clarifications:** e.g., appropriate attire, professional respect, traditions, procedures
DA.912.O.1.5:	Construct a dance that uses specific choreographic structures to express an idea and show understanding of continuity and framework. **Clarifications:** e.g., ABA, ABCA, ABACA, narrative, motif, beginning-middle-end, motif manipulation
DA.912.O.3.1:	Perform dance pieces to express feelings, ideas, cultural identity, music, and other abstract concepts through movements, steps, pantomime, and gestures.
DA.912.O.3.2:	Use imagery, analogy, and metaphor to improve body alignment and/or enhance the quality of movements, steps, phrases, or dances.
DA.912.S.1.1:	Synthesize a variety of choreographic principles and structures to create a dance. **Clarifications:**

	e.g., unity, variety, contrast, repetition, transition
DA.912.S.1.2:	Generate choreographic ideas through improvisation and physical brainstorming.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
DA.912.S.2.2:	Apply corrections and concepts from previously learned steps to different material to improve processing of new information. **Clarifications:** e.g., repetition, revision, refinement, focus
DA.912.S.2.4:	Demonstrate retention of directions, corrections, and memorization of dance from previous rehearsals and classes.
DA.912.S.3.2:	Develop and maintain flexibility, strength, and stamina for wellness and performance.
DA.912.S.3.4:	Perform dance vocabulary with musicality and sensitivity. **Clarifications:** e.g., on the counts, fill the music, emulate musical nuance
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.2:	Incorporate or adapt new, emerging, or previously unfamiliar technology to create an innovative composition, music project, or related product.
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.1:	Investigate and discuss how a culture's traditions are reflected through its music. **Clarifications:** e.g., patriotic, folk, celebration, entertainment, spiritual
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning,

LAFS.1112.SL.2.4:	alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
PE.912.C.2.2:	Apply terminology and etiquette in dance.
PE.912.C.2.3:	Analyze the movement performance of self and others. **Clarifications:** Some examples are video analysis and checklist.
PE.912.C.2.5:	Analyze the relationship between music and dance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Student dancers develop advanced skills in creating, performing, and evaluating choreographed performances as an independent ensemble and in cooperation with a music ensemble. Coursework focuses on dance, equipment manipulation, precision, and analysis of the relationship between music and dance. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1305330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** Eurythmics >

Abbreviated Title: EURHY 4

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Music Ensemble 1 (#1305400) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision.

MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with little or no experience in a vocal or instrumental ensemble develop basic musicianship and ensemble performance skills through the study of basic, high-quality music in diverse styles. Student musicians focus on building foundational music techniques, music literacy, listening skills, and aesthetic awareness. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1305400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >
Abbreviated Title: MUSIC ENS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Music Ensemble 2 (#1305410) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
DA.912.S.3.8:	Articulate and apply a stylistically appropriate sense of line to enhance artistry in one or more dance forms. **Clarifications:** e.g., arabesque, lateral T, jazz hands
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with previous vocal or instrumental ensemble experience continue building musicianship and performance skills through the study of high-quality music in diverse styles. Student musicians learn to self-assess and collaborate as they rehearse, perform, and study relevant musical styles and time periods. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1305410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music > **Abbreviated Title:** MUSIC ENS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course
Course Level: 2
Course Status: Course Approved
Grade Level(s): 9,10,11,12
Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Music Ensemble 3 (#1305420) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing
MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.

MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students strengthen vocal or instrumental ensemble performance skills, music literacy, and analytical skills through the study of high-quality music in diverse styles. Student musicians learn to self-assess and collaborate as they rehearse, perform, and study relevant history and cultures. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the

classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1305420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: MUSIC ENS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Music Ensemble 4 Honors (#1305430) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.1.2:	Compare, using correct music vocabulary, the aesthetic impact of two or more performances of a musical work to one's own hypothesis of the composer's intent. **Clarifications:** e.g., quality recordings, individual and peer-group performances, composer notes, instrumentation, expressive elements, title
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.1.1:	Analyze and evaluate the effect of "traditional" and contemporary technologies on the development of music.
MU.912.F.2.1:	Design or refine a résumé for application to higher education or the workforce that highlights marketable skills and knowledge gained through music training. **Clarifications:** e.g., repertoire lists, technology-based work, ability to research and analyze, and examples of leadership and collaborative skills
MU.912.F.2.2:	Analyze the effect of the arts and entertainment industry on the economic and social health of communities and regions. **Clarifications:** e.g., community revitalization, industry choosing new locations, cultural and social enrichment
MU.912.F.2.3:	Compare the organizational structure of a professional orchestra, chorus, quintet, or other ensemble to that of a business. **Clarifications:** e.g., leadership, financial needs and structure, marketing, personnel matters, manager, travel
MU.912.F.3.1:	Analyze and describe how meeting one's responsibilities in music offers opportunities to develop leadership skills, and identify personal examples of leadership in school and/or non-school settings.
MU.912.F.3.2:	Summarize copyright laws that govern printed, recorded, and on-line music to promote legal and responsible use of intellectual property and technology.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.F.3.4:	Design and implement a personal learning plan, related to the study of music, which demonstrates self-assessment, brain-storming, decision-making, and initiative to advance skills and/or knowledge.
MU.912.H.1.2:	Compare the work of, and influences on, two or more exemplary composers in the performance medium studied in class. **Clarifications:** e.g., vocal, instrumental, guitar, keyboard, electronic, handbells
MU.912.H.1.3:	Compare two or more works of a composer across performance media. **Clarifications:** e.g., orchestral and choral; guitar and string quartet; piano solo and piano concerto
MU.912.H.1.5:	Analyze music within cultures to gain understanding of authentic performance practices.
MU.912.H.2.1:	Evaluate the social impact of music on specific historical periods.
MU.912.H.2.2:	Analyze current musical trends, including audience environments and music acquisition, to predict possible directions of music.
MU.912.H.2.4:	Examine the effects of developing technology on composition, performance, and acquisition of music.
MU.912.O.1.1:	Evaluate the organizational principles and conventions in musical works and discuss their effect on structure. **Clarifications:** e.g., rhythm, melody, timbre, form, tonality, harmony, texture; solo, chamber ensemble, large ensemble
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.1:	Analyze expressive elements in a musical work and describe how the choices and manipulations of the elements support, for the listener, the implied meaning of the composer/performer. **Clarifications:** e.g., tempo markings, expression markings, articulation markings, phrasing, scales, modes, harmonic structure, timbre choice, rhythm, orchestration
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.1.3:	Arrange a musical work by manipulating two or more aspects of the composition. **Clarifications:** e.g., texture, mode, form, tempo, voicing
MU.912.S.1.4:	Perform and notate, independently and accurately, melodies by ear. **Clarifications:** e.g., singing, playing, writing

MU.912.S.2.1:	Apply the ability to memorize and internalize musical structure, accurate and expressive details, and processing skills to the creation or performance of music literature. **Clarifications:** e.g., memorization, sequential process
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.2:	Sight-read music accurately and expressively to show synthesis of skills. **Clarifications:** e.g., musical elements, expressive qualities, performance technique
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**

DA.912.F.3.8:	Demonstrate effective teamwork and accountability, using compromise, collaboration, and conflict resolution, to set and achieve goals as required in the work environment.
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with extensive vocal or instrumental ensemble experience refine their critical listening, music literacy, and ensemble skills through the study, rehearsal, and performance of high-quality, advanced literature. Students use reflection and problem-solving skills with increasing independence to improve their performance and musical expression. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental ensemble, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1305430

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music >

Abbreviated Title: MUSIC ENS 4 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Music Techniques 1 (#1305500) 2020 - 2022 (current)

Course Standards

Name	Description
MU.912.C.1.1:	Apply listening strategies to promote appreciation and understanding of unfamiliar musical works. **Clarifications:** e.g., listening maps, active listening, checklists
MU.912.C.2.1:	Evaluate and make appropriate adjustments to personal performance in solo and ensembles.
MU.912.C.2.2:	Evaluate performance quality in recorded and/or live performances.
MU.912.C.3.1:	Make critical evaluations, based on exemplary models, of the quality and effectiveness of performances and apply the criteria to personal development in music.
MU.912.F.3.3:	Define, prioritize, monitor, and successfully complete tasks related to individual musical performance or project presentation, without direct oversight, demonstrating skills for use in the workplace.
MU.912.O.2.1:	Transfer accepted composition conventions and performance practices of a specific style to a contrasting style of music.
MU.912.O.3.2:	Interpret and perform expressive elements indicated by the musical score and/or conductor.
MU.912.S.2.2:	Transfer expressive elements and performance techniques from one piece of music to another.
MU.912.S.3.1:	Synthesize a broad range of musical skills by performing a varied repertoire with expression, appropriate stylistic interpretation, technical accuracy, and kinesthetic energy.
MU.912.S.3.4:	Analyze and describe the effect of rehearsal sessions and/or strategies on refinement of skills and techniques.
MU.912.S.3.5:	Develop and demonstrate proper vocal or instrumental technique. **Clarifications:** e.g., posture, breathing, fingering, embouchure, bow technique, tuning, strumming
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven

MAFS.K12.MP.7.1:	more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
DA.912.S.2.1:	Sustain focused attention, respect, and discipline during class, rehearsal, and performance.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students in this entry-level class focus on the development of musical and technical skills on a specific instrument or voice through etudes, scales, and selected music literature. Through problem-solving, critical thinking, and reflection, students develop the physical and cognitive skills to be more disciplined performers. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for an instrumental class, may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1305500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Music Education > **SubSubject:** General Music > **Abbreviated Title:** MUSIC TECNQS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Performing/Fine Arts

Educator Certifications

Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)
Instrumental Music (Secondary Grades 7-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Elementary Chorus (#5013010) 2015 - 2022 (current)

Course Standards

Name	Description
MU.3.C.1.1:	Describe listening skills and how they support appreciation of musical works. **Clarifications:** e.g., focus: form, instrumentation, tempo, dynamics; organize: listening maps, active listening, checklists
MU.3.C.1.2:	Respond to a musical work in a variety of ways and compare individual interpretations. **Clarifications:** e.g., move, draw, sing, play, gesture, conduct
MU.3.C.1.4:	Discriminate between unison and two-part singing.
MU.3.C.2.1:	Evaluate performances of familiar music using teacher-established criteria.
MU.3.C.3.1:	Identify musical characteristics and elements within a piece of music when discussing the value of the work. **Clarifications:** e.g., tempo, rhythm, timbre, form, instrumentation, texture
MU.3.F.2.1:	Identify musicians in the school, community, and media. **Clarifications:** e.g., band, chorus, and/or orchestra member; music teacher; cantor, choir director, or song leader in religious services
MU.3.F.2.2:	Describe opportunities for personal music-making. **Clarifications:** e.g., performing ensembles, individual lessons, community and church music groups, family, playground, computer-generated music
MU.3.F.3.1:	Collaborate with others to create a musical presentation and acknowledge individual contributions as an integral part of the whole. **Clarifications:** e.g., work together, communicate effectively, share tasks and responsibilities, work well in cooperative learning groups
MU.3.H.1.2:	Identify significant information about specified composers and one or more of their musical works.
MU.3.H.3.1:	Experience and discuss, using correct music and other relevant content-area vocabulary, similarities in the use of pattern, line, and form in music and other teacher-selected contexts. **Clarifications:** e.g., in dance, visual art, language arts, pulse, rhythm, fluency
MU.3.O.1.1:	Identify, using correct music vocabulary, the elements in a musical work. **Clarifications:** e.g., rhythm, pitch, timbre, form
MU.3.O.1.2:	Identify and describe the musical form of a familiar song. **Clarifications:** e.g., AB, ABA, ABABA, call-and-response, verse/refrain, rondo, intro, coda
MU.3.O.3.1:	Describe how tempo and dynamics can change the mood or emotion of a piece of music.
MU.3.S.2.1:	Identify patterns in songs to aid the development of sequencing and memorization skills. **Clarifications:** e.g., parts of a round, parts of a layered work
MU.3.S.3.1:	Sing rounds, canons, or ostinati in an appropriate range, using head voice and maintaining pitch.
MU.3.S.3.3:	Sing simple la-sol-mi-re-do patterns at sight. **Clarifications:** e.g., reading from hand signs; reading from nontraditional or traditional notation
MU.4.C.1.1:	Develop effective listening strategies and describe how they can support appreciation of musical works. **Clarifications:** e.g., listen for form, instrumentation, tempo, dynamics, melodic line, rhythm patterns; organize thoughts using listening maps, active listening, checklists
MU.4.C.1.2:	Describe, using correct music vocabulary, what is heard in a specific musical work. **Clarifications:** e.g., movement of melodic line, tempo, repeated and contrasting patterns
MU.4.C.1.4:	Identify and describe the four primary voice parts, i.e., soprano, alto, tenor, bass.
MU.4.C.2.1:	Identify and describe basic music performance techniques to provide a foundation for critiquing one's self and others. **Clarifications:** e.g., intonation, balance, blend, timbre, posture, breath support
MU.4.C.2.2:	Critique specific techniques in one's own and others performances using teacher-established criteria.
MU.4.C.3.1:	Describe characteristics that make various musical works appealing. **Clarifications:** e.g., tempo, rhythm, dynamics, blend, timbre, form, texture, instrumentation

MU.4.F.2.1:	Describe roles and careers of selected musicians. **Clarifications:** e.g., teacher, conductor, composer, studio musician, recording technician, sound engineer, entertainer
MU.4.F.3.1:	Identify the characteristics and behaviors displayed by successful student musicians, and discuss how these qualities will contribute to success beyond the music classroom. **Clarifications:** e.g., punctual, prepared, dependable, self-disciplined, solutions-oriented, shows initiative, uses time wisely
MU.4.H.1.2:	Describe the influence of selected composers on the musical works and practices or traditions of their time.
MU.4.H.3.1:	Identify connections among music and other contexts, using correct music and other relevant content-area vocabulary, and explore how learning in one academic area can help with knowledge or skill acquisition in a different academic area. **Clarifications:** e.g., movement, form, repetition, rhythmic patterns/numeric patterns, fractions, vibrations/sound waves
MU.4.O.1.1:	Compare musical elements in different types of music, using correct music vocabulary, as a foundation for understanding the structural conventions of specific styles. **Clarifications:** e.g., rules of rhythm, melody, timbre, form, tonality, harmony, meter; styles: Classical, Baroque
MU.4.O.3.1:	Identify how expressive elements and lyrics affect the mood or emotion of a song. **Clarifications:** e.g., tempo, dynamics, phrasing, articulation
MU.4.O.3.2:	Apply expressive elements to a vocal or instrumental piece and, using correct music vocabulary, explain one's choices.
MU.4.S.1.3:	Arrange a familiar song for voices or instruments by manipulating form. **Clarifications:** e.g., introduction, interlude/bridge, coda, ABA, rondo
MU.4.S.2.1:	Apply knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsal and performance.
MU.4.S.3.1:	Sing rounds, canons, and/or partner songs in an appropriate range, using proper vocal technique and maintaining pitch.
MU.4.S.3.3:	Perform extended pentatonic melodies at sight. **Clarifications:** e.g., high do, low sol, low la; vocal and/or instrumental
MU.5.C.1.1:	Discuss and apply listening strategies to support appreciation of musical works. **Clarifications:** e.g., focus: structure, instrumentation, tempo, dynamics, melodic line, rhythm patterns, style/genre; organize: listening maps, active listening, checklists
MU.5.C.1.2:	Hypothesize and discuss, using correct music vocabulary, the composer's intent for a specific musical work. **Clarifications:** e.g., title, historical notes, quality recordings, instrumentation, expressive elements
MU.5.C.1.4:	Identify, aurally, the four primary voice parts, i.e., soprano, alto, tenor, bass, of a mixed choir.
MU.5.C.2.1:	Define criteria, using correct music vocabulary, to critique one's own and others performance. **Clarifications:** e.g., intonation, balance, blend, timbre
MU.5.C.2.2:	Describe changes, using correct music vocabulary, in one's own and/or others performance over time.
MU.5.C.3.1:	Develop criteria to evaluate an exemplary musical work from a specific period or genre.
MU.5.F.2.1:	Describe jobs associated with various types of concert venues and performing arts centers. **Clarifications:** e.g., music merchant, ticket agent, marketer, agent, security guard, food-and-beverage merchant
MU.5.F.2.2:	Explain why live performances are important to the career of the artist and the success of performance venues.
MU.5.F.3.1:	Examine and discuss the characteristics and behaviors displayed by successful student musicians that can be applied outside the music classroom. **Clarifications:** e.g., dedicated, works toward mastery, punctual, prepared, dependable, self-disciplined, solutions-oriented
MU.5.H.1.2:	Compare and describe the compositional characteristics used by two or more composers whose works are studied in class.
MU.5.H.3.1:	Examine critical-thinking processes in music and describe how they can be transferred to other disciplines. **Clarifications:** e.g., reading, writing, observing, listening, evaluating, embellishing, revising
MU.5.O.1.1:	Analyze, using correct music vocabulary, the use of musical elements in various styles of music as a foundation for understanding the creative process. **Clarifications:** e.g., rhythm patterns, melody, timbre, form, tonality, harmony, meter, key; styles: Classical, Baroque, Romantic, nationalistic, jazz
MU.5.O.3.1:	Examine and explain how expressive elements, when used in a selected musical work, affect personal response. **Clarifications:** e.g., tempo, dynamics, timbre, texture, phrasing, articulation
MU.5.O.3.2:	Perform expressive elements in a vocal or instrumental piece as indicated by the score and/or conductor.
MU.5.S.1.3:	Arrange a familiar song by manipulating specified aspects of music. **Clarifications:** e.g., dynamics, tempo, lyrics, form, rhythm, instrumentation
MU.5.S.1.4:	Sing or play simple melodic patterns by ear with support from the teacher.

MU.5.S.2.1:	Use expressive elements and knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsals and performance.
MU.5.S.2.2:	Apply performance techniques to familiar music.
MU.5.S.3.1:	Sing part songs in an appropriate range, using proper vocal technique and maintaining pitch.
MU.5.S.3.3:	Perform simple diatonic melodies at sight. **Clarifications:** e.g., vocal and/or instrumental
LAFS.3.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.3.SL.1.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.3.SL.1.3:	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
LAFS.4.RI.2.4:	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade *4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.4.SL.1.2:	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.4.SL.1.3:	Identify the reasons and evidence a speaker provides to support particular points.
LAFS.5.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. **Standard Relation to Course: Supporting**
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x$

	– y)² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students who have varying levels of experience in chorus develop beginning vocal technique and skills, notational literacy and fluency, expressive and stylistic interpretation, part-singing, critical and creative thinking skills, and an appreciation of music from around the world and throughout history. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom.

GENERAL NOTES

The course descriptions for Elementary Music Electives have been designed to accommodate the mixing of grade levels, experience, and abilities within the same ensemble. Music teachers for elementary music electives should select the most appropriate set of grade-specific benchmarks based on each student's experience, music literacy, and available instruction time. Once an elementary student has entered a course at a specific level of benchmarks, he or she should progress to the next set of grade-specific benchmarks in the sequence for purposes of assessment. If a student reaches the Grade 5 level prior to 5th grade, he or she may continue to participate in the ensemble; the teacher is responsible for designating an appropriate means of increasing the rigor for the student in each subsequent year.

Examples:

- A 3rd grade student beginning in Elementary Band may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 2nd grade student who has taken violin lessons for several years and who is musically literate may receive instruction in Elementary Orchestra and be assessed according to the Grade 5 benchmarks, repeating use of these benchmarks with increased rigor in each subsequent year.
- A 5th grader singing in Elementary Chorus for the first time may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 4th grader in Handbell Ensemble (Special Ensemble) for the first time may receive instruction and be assessed according to the Grade 3 benchmarks. The same student, in Orff Ensemble (Special Ensemble) for the second year, may receive instruction and be assessed according to the Grade 4 benchmarks.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >
Abbreviated Title: ELEM CHORUS
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5,PreK

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Elementary Band (#5013020) 2015 - 2022 (current)

Course Standards

Name	Description
MU.3.C.1.1:	Describe listening skills and how they support appreciation of musical works. **Clarifications:** e.g., focus: form, instrumentation, tempo, dynamics; organize: listening maps, active listening, checklists
MU.3.C.1.2:	Respond to a musical work in a variety of ways and compare individual interpretations. **Clarifications:** e.g., move, draw, sing, play, gesture, conduct
MU.3.C.1.3:	Identify families of orchestral and band instruments. **Clarifications:** e.g., strings, woodwinds, brass, percussion, keyboards
MU.3.C.2.1:	Evaluate performances of familiar music using teacher-established criteria.
MU.3.C.3.1:	Identify musical characteristics and elements within a piece of music when discussing the value of the work. **Clarifications:** e.g., tempo, rhythm, timbre, form, instrumentation, texture
MU.3.F.2.1:	Identify musicians in the school, community, and media. **Clarifications:** e.g., band, chorus, and/or orchestra member; music teacher; cantor, choir director, or song leader in religious services
MU.3.F.2.2:	Describe opportunities for personal music-making. **Clarifications:** e.g., performing ensembles, individual lessons, community and church music groups, family, playground, computer-generated music
MU.3.F.3.1:	Collaborate with others to create a musical presentation and acknowledge individual contributions as an integral part of the whole. **Clarifications:** e.g., work together, communicate effectively, share tasks and responsibilities, work well in cooperative learning groups
MU.3.H.1.2:	Identify significant information about specified composers and one or more of their musical works.
MU.3.H.3.1:	Experience and discuss, using correct music and other relevant content-area vocabulary, similarities in the use of pattern, line, and form in music and other teacher-selected contexts. **Clarifications:** e.g., in dance, visual art, language arts, pulse, rhythm, fluency
MU.3.O.1.1:	Identify, using correct music vocabulary, the elements in a musical work. **Clarifications:** e.g., rhythm, pitch, timbre, form
MU.3.O.1.2:	Identify and describe the musical form of a familiar song. **Clarifications:** e.g., AB, ABA, ABABA, call-and-response, verse/refrain, rondo, intro, coda
MU.3.O.3.1:	Describe how tempo and dynamics can change the mood or emotion of a piece of music.
MU.3.S.2.1:	Identify patterns in songs to aid the development of sequencing and memorization skills. **Clarifications:** e.g., parts of a round, parts of a layered work
MU.3.S.3.3:	Sing simple la-sol-mi-re-do patterns at sight. **Clarifications:** e.g., reading from hand signs; reading from nontraditional or traditional notation
MU.4.C.1.1:	Develop effective listening strategies and describe how they can support appreciation of musical works. **Clarifications:** e.g., listen for form, instrumentation, tempo, dynamics, melodic line, rhythm patterns; organize thoughts using listening maps, active listening, checklists
MU.4.C.1.2:	Describe, using correct music vocabulary, what is heard in a specific musical work. **Clarifications:** e.g., movement of melodic line, tempo, repeated and contrasting patterns
MU.4.C.1.3:	Classify orchestral and band instruments as strings, woodwinds, brass, percussion, or keyboard.
MU.4.C.2.1:	Identify and describe basic music performance techniques to provide a foundation for critiquing one's self and others. **Clarifications:** e.g., intonation, balance, blend, timbre, posture, breath support
MU.4.C.2.2:	Critique specific techniques in one's own and others performances using teacher-established criteria.
MU.4.C.3.1:	Describe characteristics that make various musical works appealing. **Clarifications:**

	e.g., tempo, rhythm, dynamics, blend, timbre, form, texture, instrumentation
MU.4.F.2.1:	Describe roles and careers of selected musicians. **Clarifications:** e.g., teacher, conductor, composer, studio musician, recording technician, sound engineer, entertainer
MU.4.F.3.1:	Identify the characteristics and behaviors displayed by successful student musicians, and discuss how these qualities will contribute to success beyond the music classroom. **Clarifications:** e.g., punctual, prepared, dependable, self-disciplined, solutions-oriented, shows initiative, uses time wisely
MU.4.F.3.2:	Discuss the safe, legal way to download songs and other media. **Clarifications:** e.g., sharing personal and financial information, copying and sharing music
MU.4.H.1.2:	Describe the influence of selected composers on the musical works and practices or traditions of their time.
MU.4.H.3.1:	Identify connections among music and other contexts, using correct music and other relevant content-area vocabulary, and explore how learning in one academic area can help with knowledge or skill acquisition in a different academic area. **Clarifications:** e.g., movement, form, repetition, rhythmic patterns/numeric patterns, fractions, vibrations/sound waves
MU.4.O.1.1:	Compare musical elements in different types of music, using correct music vocabulary, as a foundation for understanding the structural conventions of specific styles. **Clarifications:** e.g., rules of rhythm, melody, timbre, form, tonality, harmony, meter; styles: Classical, Baroque
MU.4.O.3.1:	Identify how expressive elements and lyrics affect the mood or emotion of a song. **Clarifications:** e.g., tempo, dynamics, phrasing, articulation
MU.4.O.3.2:	Apply expressive elements to a vocal or instrumental piece and, using correct music vocabulary, explain one's choices.
MU.4.S.1.3:	Arrange a familiar song for voices or instruments by manipulating form. **Clarifications:** e.g., introduction, interlude/bridge, coda, ABA, rondo
MU.4.S.2.1:	Apply knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsal and performance.
MU.4.S.3.3:	Perform extended pentatonic melodies at sight. **Clarifications:** e.g., high do, low sol, low la; vocal and/or instrumental
MU.5.C.1.1:	Discuss and apply listening strategies to support appreciation of musical works. **Clarifications:** e.g., focus: structure, instrumentation, tempo, dynamics, melodic line, rhythm patterns, style/genre; organize: listening maps, active listening, checklists
MU.5.C.1.2:	Hypothesize and discuss, using correct music vocabulary, the composer's intent for a specific musical work. **Clarifications:** e.g., title, historical notes, quality recordings, instrumentation, expressive elements
MU.5.C.1.3:	Identify, aurally, selected instruments of the band and orchestra. **Clarifications:** e.g., violin, cello, string bass, flute, clarinet, oboe, bassoon, trumpet, trombone, tuba, French horn, bass drum, snare drum, xylophone, chimes, piano, harpsichord
MU.5.C.2.1:	Define criteria, using correct music vocabulary, to critique one's own and others performance. **Clarifications:** e.g., intonation, balance, blend, timbre
MU.5.C.2.2:	Describe changes, using correct music vocabulary, in one's own and/or others performance over time.
MU.5.C.3.1:	Develop criteria to evaluate an exemplary musical work from a specific period or genre.
MU.5.F.2.1:	Describe jobs associated with various types of concert venues and performing arts centers. **Clarifications:** e.g., music merchant, ticket agent, marketer, agent, security guard, food-and-beverage merchant
MU.5.F.2.2:	Explain why live performances are important to the career of the artist and the success of performance venues.
MU.5.F.3.1:	Examine and discuss the characteristics and behaviors displayed by successful student musicians that can be applied outside the music classroom. **Clarifications:** e.g., dedicated, works toward mastery, punctual, prepared, dependable, self-disciplined, solutions-oriented
MU.5.F.3.2:	Practice safe, legal, and responsible acquisition and use of music media, and describe why it is important to do so. **Clarifications:** e.g., downloading music and other digital media, sharing personal and financial information, copying music
MU.5.H.1.2:	Compare and describe the compositional characteristics used by two or more composers whose works are studied in class.
MU.5.H.3.1:	Examine critical-thinking processes in music and describe how they can be transferred to other disciplines. **Clarifications:** e.g., reading, writing, observing, listening, evaluating, embellishing, revising
MU.5.O.1.1:	Analyze, using correct music vocabulary, the use of musical elements in various styles of music as a foundation for understanding the creative process. **Clarifications:**

	e.g., rhythm patterns, melody, timbre, form, tonality, harmony, meter, key; styles: Classical, Baroque, Romantic, nationalistic, jazz
MU.5.O.3.1:	Examine and explain how expressive elements, when used in a selected musical work, affect personal response. **Clarifications:** e.g., tempo, dynamics, timbre, texture, phrasing, articulation
MU.5.O.3.2:	Perform expressive elements in a vocal or instrumental piece as indicated by the score and/or conductor.
MU.5.S.1.3:	Arrange a familiar song by manipulating specified aspects of music. **Clarifications:** e.g., dynamics, tempo, lyrics, form, rhythm, instrumentation
MU.5.S.1.4:	Sing or play simple melodic patterns by ear with support from the teacher.
MU.5.S.2.1:	Use expressive elements and knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsals and performance.
MU.5.S.2.2:	Apply performance techniques to familiar music.
MU.5.S.3.3:	Perform simple diatonic melodies at sight. **Clarifications:** e.g., vocal and/or instrumental
LAFS.3.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.3.SL.1.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.3.SL.1.3:	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
LAFS.4.RI.2.4:	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade *4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.4.SL.1.2:	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.4.SL.1.3:	Identify the reasons and evidence a speaker provides to support particular points.
LAFS.5.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. **Standard Relation to Course: Supporting**
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully

	formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students who have varying levels of experience on a band instrument to explore high-quality beginning band music. They develop foundational instrumental techniques, skills, and music literacy. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may also require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

The course descriptions for Elementary Music Electives have been designed to accommodate the mixing of grade levels, experience, and abilities within the same ensemble. Music teachers for elementary music electives should select the most appropriate set of grade-specific benchmarks based on each student's experience, music literacy, and available instruction time. Once an elementary student has entered a course at a specific level of benchmarks, he or she should progress to the next set of grade-specific benchmarks in the sequence for purposes of assessment. If a student reaches the Grade 5 level prior to 5th grade, he or she may continue to participate in the ensemble; the teacher is responsible for designating an appropriate means of increasing the rigor for the student in each subsequent year.

Examples:

- A 3rd grade student beginning in Elementary Band may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 2nd grade student who has taken violin lessons for several years and who is musically literate may receive instruction in Elementary Orchestra and be assessed according to the Grade 5 benchmarks, repeating use of these benchmarks with increased rigor in each subsequent year.
- A 5th grader singing in Elementary Chorus for the first time may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 4th grader in Handbell Ensemble (Special Ensemble) for the first time may receive instruction and be assessed according to the Grade 3 benchmarks. The same student, in Orff Ensemble (Special Ensemble) for the second year, may receive instruction and be assessed according to the Grade 4 benchmarks.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >

Abbreviated Title: ELEM BAND

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5,PreK

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Elementary Orchestra (#5013030) 2015 - 2022 (current)

Course Standards

Name	Description
MU.3.C.1.1:	Describe listening skills and how they support appreciation of musical works. **Clarifications:** e.g., focus: form, instrumentation, tempo, dynamics; organize: listening maps, active listening, checklists
MU.3.C.1.2:	Respond to a musical work in a variety of ways and compare individual interpretations. **Clarifications:** e.g., move, draw, sing, play, gesture, conduct
MU.3.C.1.3:	Identify families of orchestral and band instruments. **Clarifications:** e.g., strings, woodwinds, brass, percussion, keyboards
MU.3.C.2.1:	Evaluate performances of familiar music using teacher-established criteria.
MU.3.C.3.1:	Identify musical characteristics and elements within a piece of music when discussing the value of the work. **Clarifications:** e.g., tempo, rhythm, timbre, form, instrumentation, texture
MU.3.F.2.1:	Identify musicians in the school, community, and media. **Clarifications:** e.g., band, chorus, and/or orchestra member; music teacher; cantor, choir director, or song leader in religious services
MU.3.F.2.2:	Describe opportunities for personal music-making. **Clarifications:** e.g., performing ensembles, individual lessons, community and church music groups, family, playground, computer-generated music
MU.3.F.3.1:	Collaborate with others to create a musical presentation and acknowledge individual contributions as an integral part of the whole. **Clarifications:** e.g., work together, communicate effectively, share tasks and responsibilities, work well in cooperative learning groups
MU.3.H.1.2:	Identify significant information about specified composers and one or more of their musical works.
MU.3.H.3.1:	Experience and discuss, using correct music and other relevant content-area vocabulary, similarities in the use of pattern, line, and form in music and other teacher-selected contexts. **Clarifications:** e.g., in dance, visual art, language arts, pulse, rhythm, fluency
MU.3.O.1.1:	Identify, using correct music vocabulary, the elements in a musical work. **Clarifications:** e.g., rhythm, pitch, timbre, form
MU.3.O.1.2:	Identify and describe the musical form of a familiar song. **Clarifications:** e.g., AB, ABA, ABABA, call-and-response, verse/refrain, rondo, intro, coda
MU.3.O.3.1:	Describe how tempo and dynamics can change the mood or emotion of a piece of music.
MU.3.S.2.1:	Identify patterns in songs to aid the development of sequencing and memorization skills. **Clarifications:** e.g., parts of a round, parts of a layered work
MU.3.S.3.3:	Sing simple la-sol-mi-re-do patterns at sight. **Clarifications:** e.g., reading from hand signs; reading from nontraditional or traditional notation
MU.4.C.1.1:	Develop effective listening strategies and describe how they can support appreciation of musical works. **Clarifications:** e.g., listen for form, instrumentation, tempo, dynamics, melodic line, rhythm patterns; organize thoughts using listening maps, active listening, checklists
MU.4.C.1.2:	Describe, using correct music vocabulary, what is heard in a specific musical work. **Clarifications:** e.g., movement of melodic line, tempo, repeated and contrasting patterns
MU.4.C.1.3:	Classify orchestral and band instruments as strings, woodwinds, brass, percussion, or keyboard.
MU.4.C.2.1:	Identify and describe basic music performance techniques to provide a foundation for critiquing one's self and others. **Clarifications:** e.g., intonation, balance, blend, timbre, posture, breath support
MU.4.C.2.2:	Critique specific techniques in one's own and others performances using teacher-established criteria.
MU.4.C.3.1:	Describe characteristics that make various musical works appealing. **Clarifications:**

	e.g., tempo, rhythm, dynamics, blend, timbre, form, texture, instrumentation
MU.4.F.2.1:	Describe roles and careers of selected musicians. **Clarifications:** e.g., teacher, conductor, composer, studio musician, recording technician, sound engineer, entertainer
MU.4.F.3.1:	Identify the characteristics and behaviors displayed by successful student musicians, and discuss how these qualities will contribute to success beyond the music classroom. **Clarifications:** e.g., punctual, prepared, dependable, self-disciplined, solutions-oriented, shows initiative, uses time wisely
MU.4.F.3.2:	Discuss the safe, legal way to download songs and other media. **Clarifications:** e.g., sharing personal and financial information, copying and sharing music
MU.4.H.1.2:	Describe the influence of selected composers on the musical works and practices or traditions of their time.
MU.4.H.3.1:	Identify connections among music and other contexts, using correct music and other relevant content-area vocabulary, and explore how learning in one academic area can help with knowledge or skill acquisition in a different academic area. **Clarifications:** e.g., movement, form, repetition, rhythmic patterns/numeric patterns, fractions, vibrations/sound waves
MU.4.O.1.1:	Compare musical elements in different types of music, using correct music vocabulary, as a foundation for understanding the structural conventions of specific styles. **Clarifications:** e.g., rules of rhythm, melody, timbre, form, tonality, harmony, meter; styles: Classical, Baroque
MU.4.O.3.1:	Identify how expressive elements and lyrics affect the mood or emotion of a song. **Clarifications:** e.g., tempo, dynamics, phrasing, articulation
MU.4.O.3.2:	Apply expressive elements to a vocal or instrumental piece and, using correct music vocabulary, explain one's choices.
MU.4.S.1.3:	Arrange a familiar song for voices or instruments by manipulating form. **Clarifications:** e.g., introduction, interlude/bridge, coda, ABA, rondo
MU.4.S.2.1:	Apply knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsal and performance.
MU.4.S.3.3:	Perform extended pentatonic melodies at sight. **Clarifications:** e.g., high do, low sol, low la; vocal and/or instrumental
MU.5.C.1.1:	Discuss and apply listening strategies to support appreciation of musical works. **Clarifications:** e.g., focus: structure, instrumentation, tempo, dynamics, melodic line, rhythm patterns, style/genre; organize: listening maps, active listening, checklists
MU.5.C.1.2:	Hypothesize and discuss, using correct music vocabulary, the composer's intent for a specific musical work. **Clarifications:** e.g., title, historical notes, quality recordings, instrumentation, expressive elements
MU.5.C.1.3:	Identify, aurally, selected instruments of the band and orchestra. **Clarifications:** e.g., violin, cello, string bass, flute, clarinet, oboe, bassoon, trumpet, trombone, tuba, French horn, bass drum, snare drum, xylophone, chimes, piano, harpsichord
MU.5.C.2.1:	Define criteria, using correct music vocabulary, to critique one's own and others performance. **Clarifications:** e.g., intonation, balance, blend, timbre
MU.5.C.2.2:	Describe changes, using correct music vocabulary, in one's own and/or others performance over time.
MU.5.C.3.1:	Develop criteria to evaluate an exemplary musical work from a specific period or genre.
MU.5.F.2.1:	Describe jobs associated with various types of concert venues and performing arts centers. **Clarifications:** e.g., music merchant, ticket agent, marketer, agent, security guard, food-and-beverage merchant
MU.5.F.2.2:	Explain why live performances are important to the career of the artist and the success of performance venues.
MU.5.F.3.1:	Examine and discuss the characteristics and behaviors displayed by successful student musicians that can be applied outside the music classroom. **Clarifications:** e.g., dedicated, works toward mastery, punctual, prepared, dependable, self-disciplined, solutions-oriented
MU.5.F.3.2:	Practice safe, legal, and responsible acquisition and use of music media, and describe why it is important to do so. **Clarifications:** e.g., downloading music and other digital media, sharing personal and financial information, copying music
MU.5.H.1.2:	Compare and describe the compositional characteristics used by two or more composers whose works are studied in class.
MU.5.H.3.1:	Examine critical-thinking processes in music and describe how they can be transferred to other disciplines. **Clarifications:** e.g., reading, writing, observing, listening, evaluating, embellishing, revising
MU.5.O.1.1:	Analyze, using correct music vocabulary, the use of musical elements in various styles of music as a foundation for understanding the creative process. **Clarifications:**

	e.g., rhythm patterns, melody, timbre, form, tonality, harmony, meter, key; styles: Classical, Baroque, Romantic, nationalistic, jazz
MU.5.O.3.1:	Examine and explain how expressive elements, when used in a selected musical work, affect personal response. **Clarifications:** e.g., tempo, dynamics, timbre, texture, phrasing, articulation
MU.5.O.3.2:	Perform expressive elements in a vocal or instrumental piece as indicated by the score and/or conductor.
MU.5.S.1.3:	Arrange a familiar song by manipulating specified aspects of music. **Clarifications:** e.g., dynamics, tempo, lyrics, form, rhythm, instrumentation
MU.5.S.1.4:	Sing or play simple melodic patterns by ear with support from the teacher.
MU.5.S.2.1:	Use expressive elements and knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsals and performance.
MU.5.S.2.2:	Apply performance techniques to familiar music.
MU.5.S.3.3:	Perform simple diatonic melodies at sight. **Clarifications:** e.g., vocal and/or instrumental
LAFS.3.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.3.SL.1.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.3.SL.1.3:	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
LAFS.4.RI.2.4:	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade *4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.4.SL.1.2:	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.4.SL.1.3:	Identify the reasons and evidence a speaker provides to support particular points.
LAFS.5.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. **Standard Relation to Course: Supporting**
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully

	formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SC.4.P.10.3:	Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.

General Course Information and Notes

VERSION DESCRIPTION

Students who have varying levels of experience on orchestral string instruments explore high-quality literature written and/or arranged for string orchestra. Rehearsals focus on the development of instrumental techniques and skills, critical listening and aural skills, music literacy, ensemble skills, and aesthetic musical awareness. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course may require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

The course descriptions for Elementary Music Electives have been designed to accommodate the mixing of grade levels, experience, and abilities within the same ensemble. Music teachers for elementary music electives should select the most appropriate set of grade-specific benchmarks based on each student's experience, music literacy, and available instruction time. Once an elementary student has entered a course at a specific level of benchmarks, he or she should progress to the next set of grade-specific benchmarks in the sequence for purposes of assessment. If a student reaches the Grade 5 level prior to 5th grade, he or she may continue to participate in the ensemble; the teacher is responsible for designating an appropriate means of increasing the rigor for the student in each subsequent year.

Examples:

- A 3rd grade student beginning in Elementary Band may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 2nd grade student who has taken violin lessons for several years and who is musically literate may receive instruction in Elementary Orchestra and be assessed according to the Grade 5 benchmarks, repeating use of these benchmarks with increased rigor in each subsequent year.
- A 5th grader singing in Elementary Chorus for the first time may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 4th grader in Handbell Ensemble (Special Ensemble) for the first time may receive instruction and be assessed according to the Grade 3 benchmarks. The same student, in Orff Ensemble (Special Ensemble) for the second year, may receive instruction and be assessed according to the Grade 4 benchmarks.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >

Abbreviated Title: ELEM ORCHESTRA

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5,PreK

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)

Elementary Special Ensemble (#5013035) 2015 - 2022 (current)

Course Standards

Name	Description
MU.3.C.1.1:	Describe listening skills and how they support appreciation of musical works. **Clarifications:** e.g., focus: form, instrumentation, tempo, dynamics; organize: listening maps, active listening, checklists
MU.3.C.1.2:	Respond to a musical work in a variety of ways and compare individual interpretations. **Clarifications:** e.g., move, draw, sing, play, gesture, conduct
MU.3.C.2.1:	Evaluate performances of familiar music using teacher-established criteria.
MU.3.C.3.1:	Identify musical characteristics and elements within a piece of music when discussing the value of the work. **Clarifications:** e.g., tempo, rhythm, timbre, form, instrumentation, texture
MU.3.F.2.1:	Identify musicians in the school, community, and media. **Clarifications:** e.g., band, chorus, and/or orchestra member; music teacher; cantor, choir director, or song leader in religious services
MU.3.F.2.2:	Describe opportunities for personal music-making. **Clarifications:** e.g., performing ensembles, individual lessons, community and church music groups, family, playground, computer-generated music
MU.3.F.3.1:	Collaborate with others to create a musical presentation and acknowledge individual contributions as an integral part of the whole. **Clarifications:** e.g., work together, communicate effectively, share tasks and responsibilities, work well in cooperative learning groups
MU.3.H.1.2:	Identify significant information about specified composers and one or more of their musical works.
MU.3.H.3.1:	Experience and discuss, using correct music and other relevant content-area vocabulary, similarities in the use of pattern, line, and form in music and other teacher-selected contexts. **Clarifications:** e.g., in dance, visual art, language arts, pulse, rhythm, fluency
MU.3.O.1.1:	Identify, using correct music vocabulary, the elements in a musical work. **Clarifications:** e.g., rhythm, pitch, timbre, form
MU.3.O.1.2:	Identify and describe the musical form of a familiar song. **Clarifications:** e.g., AB, ABA, ABABA, call-and-response, verse/refrain, rondo, intro, coda
MU.3.O.3.1:	Describe how tempo and dynamics can change the mood or emotion of a piece of music.
MU.3.S.2.1:	Identify patterns in songs to aid the development of sequencing and memorization skills. **Clarifications:** e.g., parts of a round, parts of a layered work
MU.3.S.3.3:	Sing simple la-sol-mi-re-do patterns at sight. **Clarifications:** e.g., reading from hand signs; reading from nontraditional or traditional notation
MU.4.C.1.1:	Develop effective listening strategies and describe how they can support appreciation of musical works. **Clarifications:** e.g., listen for form, instrumentation, tempo, dynamics, melodic line, rhythm patterns; organize thoughts using listening maps, active listening, checklists
MU.4.C.1.2:	Describe, using correct music vocabulary, what is heard in a specific musical work. **Clarifications:** e.g., movement of melodic line, tempo, repeated and contrasting patterns
MU.4.C.2.1:	Identify and describe basic music performance techniques to provide a foundation for critiquing one's self and others. **Clarifications:** e.g., intonation, balance, blend, timbre, posture, breath support
MU.4.C.2.2:	Critique specific techniques in one's own and others performances using teacher-established criteria.
MU.4.C.3.1:	Describe characteristics that make various musical works appealing. **Clarifications:** e.g., tempo, rhythm, dynamics, blend, timbre, form, texture, instrumentation
MU.4.F.2.1:	Describe roles and careers of selected musicians. **Clarifications:** e.g., teacher, conductor, composer, studio musician, recording technician, sound engineer, entertainer

MU.4.F.3.1:	Identify the characteristics and behaviors displayed by successful student musicians, and discuss how these qualities will contribute to success beyond the music classroom. **Clarifications:** e.g., punctual, prepared, dependable, self-disciplined, solutions-oriented, shows initiative, uses time wisely
MU.4.H.1.2:	Describe the influence of selected composers on the musical works and practices or traditions of their time.
MU.4.H.3.1:	Identify connections among music and other contexts, using correct music and other relevant content-area vocabulary, and explore how learning in one academic area can help with knowledge or skill acquisition in a different academic area. **Clarifications:** e.g., movement, form, repetition, rhythmic patterns/numeric patterns, fractions, vibrations/sound waves
MU.4.O.1.1:	Compare musical elements in different types of music, using correct music vocabulary, as a foundation for understanding the structural conventions of specific styles. **Clarifications:** e.g., rules of rhythm, melody, timbre, form, tonality, harmony, meter; styles: Classical, Baroque
MU.4.O.3.1:	Identify how expressive elements and lyrics affect the mood or emotion of a song. **Clarifications:** e.g., tempo, dynamics, phrasing, articulation
MU.4.O.3.2:	Apply expressive elements to a vocal or instrumental piece and, using correct music vocabulary, explain one's choices.
MU.4.S.1.3:	Arrange a familiar song for voices or instruments by manipulating form. **Clarifications:** e.g., introduction, interlude/bridge, coda, ABA, rondo
MU.4.S.2.1:	Apply knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsal and performance.
MU.4.S.3.3:	Perform extended pentatonic melodies at sight. **Clarifications:** e.g., high do, low sol, low la; vocal and/or instrumental
MU.5.C.1.1:	Discuss and apply listening strategies to support appreciation of musical works. **Clarifications:** e.g., focus: structure, instrumentation, tempo, dynamics, melodic line, rhythm patterns, style/genre; organize: listening maps, active listening, checklists
MU.5.C.1.2:	Hypothesize and discuss, using correct music vocabulary, the composer's intent for a specific musical work. **Clarifications:** e.g., title, historical notes, quality recordings, instrumentation, expressive elements
MU.5.C.2.1:	Define criteria, using correct music vocabulary, to critique one's own and others performance. **Clarifications:** e.g., intonation, balance, blend, timbre
MU.5.C.2.2:	Describe changes, using correct music vocabulary, in one's own and/or others performance over time.
MU.5.C.3.1:	Develop criteria to evaluate an exemplary musical work from a specific period or genre.
MU.5.F.2.1:	Describe jobs associated with various types of concert venues and performing arts centers. **Clarifications:** e.g., music merchant, ticket agent, marketer, agent, security guard, food-and-beverage merchant
MU.5.F.2.2:	Explain why live performances are important to the career of the artist and the success of performance venues.
MU.5.F.3.1:	Examine and discuss the characteristics and behaviors displayed by successful student musicians that can be applied outside the music classroom. **Clarifications:** e.g., dedicated, works toward mastery, punctual, prepared, dependable, self-disciplined, solutions-oriented
MU.5.H.1.2:	Compare and describe the compositional characteristics used by two or more composers whose works are studied in class.
MU.5.H.3.1:	Examine critical-thinking processes in music and describe how they can be transferred to other disciplines. **Clarifications:** e.g., reading, writing, observing, listening, evaluating, embellishing, revising
MU.5.O.1.1:	Analyze, using correct music vocabulary, the use of musical elements in various styles of music as a foundation for understanding the creative process. **Clarifications:** e.g., rhythm patterns, melody, timbre, form, tonality, harmony, meter, key; styles: Classical, Baroque, Romantic, nationalistic, jazz
MU.5.O.3.1:	Examine and explain how expressive elements, when used in a selected musical work, affect personal response. **Clarifications:** e.g., tempo, dynamics, timbre, texture, phrasing, articulation
MU.5.O.3.2:	Perform expressive elements in a vocal or instrumental piece as indicated by the score and/or conductor.
MU.5.S.1.3:	Arrange a familiar song by manipulating specified aspects of music. **Clarifications:** e.g., dynamics, tempo, lyrics, form, rhythm, instrumentation
MU.5.S.1.4:	Sing or play simple melodic patterns by ear with support from the teacher.
MU.5.S.2.1:	Use expressive elements and knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsals and performance.
MU.5.S.2.2:	Apply performance techniques to familiar music.
MU.5.S.3.3:	Perform simple diatonic melodies at sight. **Clarifications:** e.g., vocal and/or instrumental

LAFS.3.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.3.SL.1.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.3.SL.1.3:	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
LAFS.4.RI.2.4:	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade *4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.4.SL.1.2:	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.4.SL.1.3:	Identify the reasons and evidence a speaker provides to support particular points.
LAFS.5.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. **Standard Relation to Course: Supporting**
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Students with varying levels of experience in an elementary ensemble other than chorus, band, or orchestra develop foundational techniques, skills, and music literacy. Public performances may serve as a culmination of specific instructional goals. Students may be required to attend and/or participate in rehearsals and performances outside the school day to support, extend, and assess learning in the classroom. This course, if used for such small-instrument ensembles as recorder or guitar, may require students to obtain a musical instrument (e.g., borrow, rent, purchase) from an outside source.

GENERAL NOTES

The course descriptions for Elementary Music Electives have been designed to accommodate the mixing of grade levels, experience, and abilities within the same ensemble. Music teachers for elementary music electives should select the most appropriate set of grade-specific benchmarks based on each student's experience, music literacy, and available instruction time. Once an elementary student has entered a course at a specific level of benchmarks, he or she should progress to the next set of grade-specific benchmarks in the sequence for purposes of assessment. If a student reaches the Grade 5 level prior to 5th grade, he or she may continue to participate in the ensemble; the teacher is responsible for designating an appropriate means of increasing the rigor for the student in each subsequent year.

Examples:

- A 3rd grade student beginning in Elementary Band may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 2nd grade student who has taken violin lessons for several years and who is musically literate may receive instruction in Elementary Orchestra and be assessed according to the Grade 5 benchmarks, repeating use of these benchmarks with increased rigor in each subsequent year.
- A 5th grader singing in Elementary Chorus for the first time may receive instruction and be assessed according to the Grade 3 benchmarks.
- A 4th grader in Handbell Ensemble (Special Ensemble) for the first time may receive instruction and be assessed according to the Grade 3 benchmarks. The same student, in Orff Ensemble (Special Ensemble) for the second year, may receive instruction and be assessed according to the Grade 4 benchmarks.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013035

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >
Abbreviated Title: ELEM SPEC ENS
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5,PreK

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Instrumental Music (Elementary and Secondary Grades K-12)

Music - Grade Kindergarten (#5013060) 2015 - 2022 (current)

Course Standards

Name	Description
MU.K.C.1.1:	Respond to music from various sound sources to show awareness of steady beat. **Clarifications:** e.g., steady beat, pulse
MU.K.C.1.2:	Identify various sounds in a piece of music. **Clarifications:** e.g., vocal/instrumental timbres, environmental sounds
MU.K.C.1.3:	Identify, visually and aurally, pitched and unpitched classroom instruments. **Clarifications:** e.g., rhythm sticks, woodblock, xylophone, metallophone, autoharp
MU.K.C.1.4:	Identify singing, speaking, and whispering voices.
MU.K.C.2.1:	Identify similarities and/or differences in a performance.
MU.K.C.3.1:	Share opinions about selected pieces of music.
MU.K.F.1.1:	Respond to and explore music through creative play and found sounds in the music classroom. **Clarifications:** e.g., creative play, drama/acting, kinesthetic response, vocalizations, sound carpets
MU.K.F.3.1:	Exhibit age-appropriate music and life skills that will add to the success in the music classroom. **Clarifications:** e.g., take turns, share, be a good listener, be respectful, display good manners
MU.K.H.1.1:	Respond to music from diverse cultures through singing and movement. **Clarifications:** e.g., nursery rhymes, singing games, folk dances
MU.K.H.2.1:	Respond to and/or perform folk music of American cultural sub-groups. **Clarifications:** e.g., African American, Anglo-American, Latin American, Native American
MU.K.H.3.1:	Perform simple songs, finger plays, and rhymes to experience connections among music, language, and numbers. **Clarifications:** e.g., decoding simple words, phonemes, rhyming words, vocabulary, making predictions, cardinal numbers, sequencing
MU.K.O.1.1:	Respond to beat, rhythm, and melodic line through imitation. **Clarifications:** e.g., locomotor and non-locomotor movement, body levels
MU.K.O.1.2:	Identify similarities and differences in melodic phrases and/or rhythm patterns. **Clarifications:** e.g., visually, aurally
MU.K.O.3.1:	Respond to music to demonstrate how it makes one feel. **Clarifications:** e.g., movement, drawings
MU.K.S.1.1:	Improvise a response to a musical question sung or played by someone else. **Clarifications:** e.g., melodic, rhythmic
MU.K.S.2.1:	Sing or play songs from memory. **Clarifications:** e.g., rhymes, chants, poems
MU.K.S.3.1:	Sing songs of limited range appropriate to the young child and use the head voice.
MU.K.S.3.2:	Perform simple songs and accompaniments. **Clarifications:** e.g., singing, using body percussion or classroom instruments
MU.K.S.3.3:	Match pitches in a song or musical phrase in one or more keys. **Clarifications:** e.g., la, sol, mi
MU.K.S.3.4:	Imitate simple rhythm patterns played by the teacher or a peer. **Clarifications:** e.g., quarter note, quarter rest, beamed eighth notes
LAFS.K.RL.1.2:	With prompting and support, retell familiar stories, including key details.

LAFS.K.RL.4.10:	Actively engage in group reading activities with purpose and understanding.
LAFS.K.SL.1.1:	Participate in collaborative conversations with diverse partners about *kindergarten topics* and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges. **Standard Relation to Course: Supporting**
LAFS.K.SL.1.2:	Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
LAFS.K.SL.1.3:	Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
PE.K.C.2.1:	Recognize locomotor skills. **Clarifications:** Some examples of locomotor skills are walking, running, skipping, leaping, hopping, jumping and galloping.
PE.K.C.2.2:	Recognize physical activities have safety rules and procedures. **Clarifications:** An example would be to put equipment away when not in use in order to keep the physical activity area safe.
PE.K.R.6.2:	Identify a benefit of willingly trying new movements and motor skills.
PE.K.R.6.3:	Identify the benefits of continuing to participate when not successful on the first try.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.K.O.3.1:	Use movement to express a feeling, idea, or story.
DA.K.S.3.3:	Develop kinesthetic awareness by maintaining personal space and moving in pathways through space.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.K.B.5.3:	Recognize the consequences of not following rules/practices when making healthy and safe decisions. **Clarifications:** Injury to self and/or others.
SC.K.P.10.1:	Observe that things that make sound vibrate.
TH.K.S.1.3:	Describe personal preferences related to a performance.

General Course Information and Notes

VERSION DESCRIPTION

Kindergarten students in music class explore their environment and music world through a variety of experiences. Singing, listening, and movement activities will form the foundation for musical development, along with thinking, self-expression, and communication skills will be developed through singing, movement, creative musical play, creating, listening, and understanding activities. A variety of carefully chosen music will allow students to gain knowledge of one's self and build understanding, acceptance, and enrichment throughout their lives. By fostering creativity throughout the curriculum, the seeds of innovation will begin to bloom even in these novice learners.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and

should be fully integrated in support of arts instruction.

Special Note: This class may include opportunities to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >

Abbreviated Title: MUSIC - GRADE K

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Music - Grade 1 (#5013070) 2015 - 2022 (current)

Course Standards

Name	Description
MU.1.C.1.1:	Respond to specific, teacher-selected musical characteristics in a song or instrumental piece. **Clarifications:** e.g., beat, rhythm, phrasing, dynamics, tempo
MU.1.C.1.2:	Respond to music from various sound sources to show awareness of differences in musical ideas. **Clarifications:** e.g., moods, images
MU.1.C.1.3:	Classify instruments into pitched and unpitched percussion families. **Clarifications:** e.g., xylophone, glockenspiel, woodblock, tambourine
MU.1.C.1.4:	Differentiate between music performed by one singer and music performed by a group of singers.
MU.1.C.2.1:	Identify the similarities and differences between two performances of a familiar song. **Clarifications:** e.g., tempo, lyrics/no lyrics, style
MU.1.C.3.1:	Share different thoughts or feelings people have about selected pieces of music.
MU.1.F.1.1:	Create sounds or movement freely with props, instruments, and/or found sounds in response to various music styles and/or elements. **Clarifications:** e.g., staccato/legato, phrasing, melodic direction, steady beat, rhythm; props: use scarves, ribbon sticks, fabric shapes
MU.1.F.2.1:	Describe how he or she likes to participate in music. **Clarifications:** e.g., sing with a family member or friend, make up songs, tap rhythms, play a musical instrument
MU.1.F.3.1:	Demonstrate appropriate manners and teamwork necessary for success in a music classroom. **Clarifications:** e.g., take turns, share, be a good listener, be respectful, display good manners
MU.1.H.1.1:	Perform simple songs, dances, and musical games from a variety of cultures. **Clarifications:** e.g., nursery rhymes, singing games, play parties, folk dances
MU.1.H.1.2:	Explain the work of a composer.
MU.1.H.2.1:	Identify and perform folk music used to remember and honor America and its cultural heritage. **Clarifications:** e.g., "This Land is Your Land," "Short'nin' Bread," "America"
MU.1.H.3.1:	Explore the use of instruments and vocal sounds to replace or enhance specified words or phrases in children's songs, choral readings of poems and stories, and/or chants. **Clarifications:** e.g., rhyming words, vowel sounds, characters, setting, mood
MU.1.O.1.1:	Respond to contrasts in music as a foundation for understanding structure. **Clarifications:** e.g., high/low, fast/slow, long/short, phrases
MU.1.O.1.2:	Identify patterns of a simple, four-measure song or speech piece. **Clarifications:** e.g., AABA, ABCA, ABAC
MU.1.O.3.1:	Respond to changes in tempo and/or dynamics within musical examples.
MU.1.S.1.1:	Improvise a four-beat response to a musical question sung or played by someone else. **Clarifications:** e.g., melodic, rhythmic
MU.1.S.1.2:	Create short melodic and rhythmic patterns based on teacher-established guidelines.
MU.1.S.2.1:	Sing or play songs, which may include changes in verses or repeats, from memory.
MU.1.S.3.1:	Sing simple songs in a group, using head voice and maintaining pitch. **Clarifications:** e.g., folk songs, finger-plays, call-and-response, echo songs
MU.1.S.3.2:	Play three- to five-note melodies and/or accompaniments on classroom instruments.
MU.1.S.3.3:	Sing simple la-sol-mi patterns at sight. **Clarifications:** e.g., reading from hand signs or iconic representations
	Match simple aural rhythm patterns in duple meter with written patterns.

MU.1.S.3.4:	**Clarifications:** e.g., quarter note/rest, beamed eighth notes
MU.1.S.3.5:	Show visual representation of simple melodic patterns performed by the teacher or a peer. **Clarifications:** e.g., draw, body/hand signs, manipulatives, la-sol-mi
MAFS.1.OA.1.1:	Use addition and subtraction within 20 to solve word problems[1] involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem ([1]Students are not required to independently read the word problems.) **Standard Relation to Course: Supporting**
MAFS.1.OA.1.2:	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
LAFS.1.RL.2.4:	Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.
LAFS.1.SL.1.1:	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion. **Standard Relation to Course: Supporting**
LAFS.1.SL.1.2:	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
LAFS.1.SL.1.3:	Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
DA.1.O.3.1:	Create movement phrases to express a feeling, idea, or story.
DA.1.S.3.4:	Demonstrate acuity in transferring given rhythmic patterns from the aural to the kinesthetic. **Clarifications:** e.g., verbalized rhythm transferred to the feet
PE.1.C.2.1:	Identify the critical elements of locomotor skills. **Clarifications:** Some examples of critical elements of locomotor skills are step-hop for skipping and use of one foot for hopping.
PE.1.C.2.2:	Identify safety rules and procedures for teacher-selected physical activities. **Clarifications:** An example of a safety procedure is having students stand a safe distance away from a student swinging a bat during striking activities.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.1.B.5.3:	Explain the consequences of not following rules/practices when making healthy and safe decisions. **Clarifications:** Tooth decay and environmental damage.
TH.1.S.1.3:	Explain personal preferences related to a performance.

General Course Information and Notes

VERSION DESCRIPTION

First-grade students in music class explore their world through listening, singing, moving, playing instruments, and creating to stimulate the imagination and lead to innovation and creative risk-taking. As they develop basic skills, techniques, and processes in music, they strengthen their music and extra-music vocabulary and music literacy, as well as their ability to remember, focus on, process, and sequence information. As students sing, play, move, and create together, they develop the foundation for important skills such as teamwork, acceptance, respect, and responsibility that will help students be successful in the 21st century.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Note: This class may include opportunities to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >
Abbreviated Title: MUSIC - GRADE 1
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 1

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Music - Grade 2 (#5013080) 2015 - 2022 (current)

Course Standards

Name	Description
MU.2.C.1.1:	Identify appropriate listening skills for learning about musical examples selected by the teacher. **Clarifications:** e.g., listen for form, voices/instruments; organize thoughts using listening maps, active listening, checklists
MU.2.C.1.2:	Respond to a piece of music and discuss individual interpretations. **Clarifications:** e.g., move, write, draw, describe, gesture
MU.2.C.1.3:	Classify unpitched instruments into metals, membranes, shakers, and wooden categories.
MU.2.C.1.4:	Identify child, adult male, and adult female voices by timbre.
MU.2.C.2.1:	Identify strengths and needs in classroom performances of familiar songs.
MU.2.C.3.1:	Discuss why musical characteristics are important when forming and discussing opinions about music. **Clarifications:** e.g., tempo, rhythm, dynamics, instrumentation
MU.2.F.1.1:	Create a musical performance that brings a story or poem to life. **Clarifications:** e.g., sound carpets, original stories and poems, literary works
MU.2.F.2.1:	Describe how people participate in music. **Clarifications:** e.g., singing with family or friends, school music classes, live concerts, parades, sound recordings, video games, movie soundtracks, television and radio commercials
MU.2.F.3.1:	Collaborate with others in a music presentation and discuss what was successful and what could be improved. **Clarifications:** e.g., take turns, share, be a good listener, be respectful, display good manners, work well in cooperative learning groups
MU.2.H.1.1:	Perform songs, musical games, dances, and simple instrumental accompaniments from a variety of cultures. **Clarifications:** e.g., multi-cultural and classroom pitched or non-pitched instruments; bordun, ostinato
MU.2.H.1.2:	Identify the primary differences between composed and folk music.
MU.2.H.2.1:	Discuss how music is used for celebrations in American and other cultures. **Clarifications:** e.g., birthdays, New Year, national and religious holidays
MU.2.H.3.1:	Perform and compare patterns, aurally and visually, found in songs, finger plays, or rhymes to gain a foundation for exploring patterns in other contexts.
MU.2.O.1.1:	Identify basic elements of music in a song or instrumental excerpt. **Clarifications:** e.g., melody, rhythm, pitch, form
MU.2.O.1.2:	Identify the form of a simple piece of music. **Clarifications:** e.g., AB, ABA, call-and-response
MU.2.O.3.1:	Describe changes in tempo and dynamics within a musical work.
MU.2.S.1.1:	Improvise short phrases in response to a given musical question.
MU.2.S.1.2:	Create simple ostinati to accompany songs or poems.
MU.2.S.2.1:	Sing or play songs, which may include changes in dynamics, lyrics, and form, from memory.
MU.2.S.3.1:	Sing songs in an appropriate range, using head voice and maintaining pitch.
MU.2.S.3.2:	Play simple melodies and/or accompaniments on classroom instruments.
MU.2.S.3.3:	Sing simple la-sol-mi-do patterns at sight. **Clarifications:** e.g., reading from hand signs and/or iconic or traditional representations
MU.2.S.3.4:	Compare aural melodic patterns with written patterns to determine whether they are the same or different. **Clarifications:** e.g., la-sol-mi-do; quarter note/rest, beamed eighth notes
MU.2.S.3.5:	Show visual, gestural, and traditional representation of simple melodic patterns performed by someone else. **Clarifications:** e.g., draw, body/hand signs, manipulatives, la-sol-mi
LAFS.2.RI.1.1:	Ask and answer such questions as *who, what, where, when, why*, and *how* to demonstrate understanding of key details in a text.
	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the

LAFS.2.SL.1.1:	topics and texts under discussion). b. Build on others' talk in conversations by linking their comments to the remarks of others. c. Ask for clarification and further explanation as needed about the topics and texts under discussion. **Standard Relation to Course: Supporting**
LAFS.2.SL.1.2:	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
LAFS.2.SL.1.3:	Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
PE.2.C.2.2:	Identify safety rules and procedures for selected physical activities. **Clarifications:** An example of a safety procedure is having students stand a safe distance away from a student swinging a bat during striking activities.
PE.2.M.1.9:	Perform one folk or line dance accurately. **Clarifications:** An example of a line dance is the Electric Slide.
PE.2.R.6.2:	Discuss the relationship between skill competence and enjoyment.
PE.2.R.6.3:	Identify ways to contribute as a member of a cooperative group.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
DA.2.O.3.1:	Use movement to interpret feelings, stories, pictures, and songs.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.2.B.5.3:	Compare the consequences of not following rules/practices when making healthy and safe decisions. **Clarifications:** Negative emotions, accidents, injuries, and pollution.
TH.2.C.1.1:	Describe a character in a story and tell why the character is important to the story.

General Course Information and Notes

VERSION DESCRIPTION

Second-grade students in music class continue exploration of their world as they strengthen their musical skills, techniques, and processes. Student's working vocabulary and musical literacy and understanding deepen with the ability to use unique musical language to communicate their own ideas. Connections with the arts and other disciplines allow students to transfer knowledge and skills to and from other fields of study. As students sing, play, move, and create together, they continue to build such important skills as teamwork, acceptance, respect, and responsibility that will help them be successful in the 21st century.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

Special Note: This class may include opportunities to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >

Abbreviated Title: MUSIC - GRADE 2

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 2

Educator Certifications

Music Education (Elementary Grades 1-6)
Vocal Music (Elementary and Secondary Grades K-12)
Music (Elementary and Secondary Grades K-12)

Music - Intermediate 1 (#5013090) 2015 - 2022 (current)

Course Standards

Name	Description
MU.3.C.1.1:	Describe listening skills and how they support appreciation of musical works. **Clarifications:** e.g., focus: form, instrumentation, tempo, dynamics; organize: listening maps, active listening, checklists
MU.3.C.1.2:	Respond to a musical work in a variety of ways and compare individual interpretations. **Clarifications:** e.g., move, draw, sing, play, gesture, conduct
MU.3.C.1.3:	Identify families of orchestral and band instruments. **Clarifications:** e.g., strings, woodwinds, brass, percussion, keyboards
MU.3.C.1.4:	Discriminate between unison and two-part singing.
MU.3.C.2.1:	Evaluate performances of familiar music using teacher-established criteria.
MU.3.C.3.1:	Identify musical characteristics and elements within a piece of music when discussing the value of the work. **Clarifications:** e.g., tempo, rhythm, timbre, form, instrumentation, texture
MU.3.F.1.1:	Enhance the meaning of a story or poem by creating a musical interpretation using voices, instruments, movement, and/or found sounds. **Clarifications:** e.g., sound carpets, original stories and poems, literary works
MU.3.F.2.1:	Identify musicians in the school, community, and media. **Clarifications:** e.g., band, chorus, and/or orchestra member; music teacher; cantor, choir director, or song leader in religious services
MU.3.F.2.2:	Describe opportunities for personal music-making. **Clarifications:** e.g., performing ensembles, individual lessons, community and church music groups, family, playground, computer-generated music
MU.3.F.3.1:	Collaborate with others to create a musical presentation and acknowledge individual contributions as an integral part of the whole. **Clarifications:** e.g., work together, communicate effectively, share tasks and responsibilities, work well in cooperative learning groups
MU.3.H.1.1:	Compare indigenous instruments of specified cultures. **Clarifications:** e.g., congas, dundun drums, maracas, dulcimer, darabukah
MU.3.H.1.2:	Identify significant information about specified composers and one or more of their musical works.
MU.3.H.1.3:	Identify timbre(s) in music from a variety of cultures. **Clarifications:** e.g., metals, woods, shakers, strings, voice: adult, child
MU.3.H.2.1:	Discuss how music in America was influenced by people and events in its history. **Clarifications:** e.g., slavery, expansion of railroad, jazz, war, politics
MU.3.H.3.1:	Experience and discuss, using correct music and other relevant content-area vocabulary, similarities in the use of pattern, line, and form in music and other teacher-selected contexts. **Clarifications:** e.g., in dance, visual art, language arts, pulse, rhythm, fluency
MU.3.O.1.1:	Identify, using correct music vocabulary, the elements in a musical work. **Clarifications:** e.g., rhythm, pitch, timbre, form
MU.3.O.1.2:	Identify and describe the musical form of a familiar song. **Clarifications:** e.g., AB, ABA, ABABA, call-and-response, verse/refrain, rondo, intro, coda
MU.3.O.2.1:	Rearrange melodic or rhythmic patterns to generate new phrases.
MU.3.O.3.1:	Describe how tempo and dynamics can change the mood or emotion of a piece of music.
MU.3.S.1.1:	Improvise rhythms or melodies over ostinati.
MU.3.S.1.2:	Create an alternate ending to a familiar song. **Clarifications:** e.g., dynamics, tempo, lyrics
MU.3.S.2.1:	Identify patterns in songs to aid the development of sequencing and memorization skills. **Clarifications:**

	e.g., parts of a round, parts of a layered work
MU.3.S.3.1:	Sing rounds, canons, or ostinati in an appropriate range, using head voice and maintaining pitch.
MU.3.S.3.2:	Play melodies and layered ostinati, using proper instrumental technique, on pitched and unpitched instruments.
MU.3.S.3.3:	Sing simple la-sol-mi-re-do patterns at sight. **Clarifications:** e.g., reading from hand signs; reading from nontraditional or traditional notation
MU.3.S.3.4:	Match simple aural rhythm patterns in duple and triple meter with written patterns. **Clarifications:** e.g., 2/4, 3/4, 4/4
MU.3.S.3.5:	Notate simple rhythmic and melodic patterns using traditional notation. **Clarifications:** e.g., rhythmic: quarter notes, beamed eighth notes, half notes, quarter rests, half rests; melodic: la-sol-mi-do
LAFS.3.RI.1.1:	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.3.SL.1.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.3.SL.1.3:	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
PE.3.C.2.2:	Understand the importance of safety rules and procedures in all physical activities. **Clarifications:** An example of a safety procedure is wearing a helmet when riding a bicycle.
PE.3.M.1.10:	Perform one dance accurately. **Clarifications:** Some examples of dances are square, contra, step and social.
DA.3.H.1.1:	Practice and perform social, cultural, or folk dances, using associated traditional music, to identify commonalities and differences.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
VA.3.H.1.3:	Identify and be respectful of ideas important to individuals, groups, or cultures that are reflected in their artworks.

General Course Information and Notes

VERSION DESCRIPTION

Third-grade* students in music class explore their world by engaging in active learning processes to refine the skills, techniques, and processes of musicianship through such activities as improvisation and arranging. As they continue to develop their working music and cross-content vocabulary and become able to identify fundamental characteristics of musical structures, they demonstrate artistic growth through cognition and reflection and endeavor to use their own artistic voices to communicate ideas and inventions. They recognize the importance of cultural experiences in music throughout history and in emerging art forms. Music students examine the positive impact of the arts in society and practice creative risk-taking in preparation for contributive citizenship in the 21st century.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

* Intermediate Music 1, 2, and 3 have been designed in two ways: 1) to challenge students on grade level who have previously taken classes in this content area; and 2) to challenge students whose education in this content area has been delayed until the intermediate grades. Music teachers of classes in Grades 3, 4, and 5 should select the most appropriate course level in the series based on each group's prior experience, the benchmarks, and available instruction time. Once elementary students have entered the series, they must progress to the next course in sequence.

Examples:

- A 3rd grade class that may or may not have taken Music previously should be enrolled in Intermediate Music 1 and progress through the series in subsequent grades.
- 4th graders beginning formal instruction in Music for the first time may be enrolled, as a class, in Intermediate Music 1, and must then progress to Intermediate Music 2 in the following year.]

Special Note: This class may include opportunities to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013090

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >

Abbreviated Title: MUSIC-INTERM 1

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5,PreK

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Music - Intermediate 2 (#5013100) 2015 - 2022 (current)

Course Standards

Name	Description
MU.4.C.1.1:	Develop effective listening strategies and describe how they can support appreciation of musical works. **Clarifications:** e.g., listen for form, instrumentation, tempo, dynamics, melodic line, rhythm patterns; organize thoughts using listening maps, active listening, checklists
MU.4.C.1.2:	Describe, using correct music vocabulary, what is heard in a specific musical work. **Clarifications:** e.g., movement of melodic line, tempo, repeated and contrasting patterns
MU.4.C.1.3:	Classify orchestral and band instruments as strings, woodwinds, brass, percussion, or keyboard.
MU.4.C.1.4:	Identify and describe the four primary voice parts, i.e., soprano, alto, tenor, bass.
MU.4.C.2.1:	Identify and describe basic music performance techniques to provide a foundation for critiquing one's self and others. **Clarifications:** e.g., intonation, balance, blend, timbre, posture, breath support
MU.4.C.2.2:	Critique specific techniques in one's own and others performances using teacher-established criteria.
MU.4.C.3.1:	Describe characteristics that make various musical works appealing. **Clarifications:** e.g., tempo, rhythm, dynamics, blend, timbre, form, texture, instrumentation
MU.4.F.1.1:	Create new interpretations of melodic or rhythmic pieces by varying or adding dynamics, timbre, tempo, lyrics, and/or movement. **Clarifications:** e.g., mallet use, vocal and instrumental changes, digital sounds, literature, poetry
MU.4.F.2.1:	Describe roles and careers of selected musicians. **Clarifications:** e.g., teacher, conductor, composer, studio musician, recording technician, sound engineer, entertainer
MU.4.F.3.1:	Identify the characteristics and behaviors displayed by successful student musicians, and discuss how these qualities will contribute to success beyond the music classroom. **Clarifications:** e.g., punctual, prepared, dependable, self-disciplined, solutions-oriented, shows initiative, uses time wisely
MU.4.F.3.2:	Discuss the safe, legal way to download songs and other media. **Clarifications:** e.g., sharing personal and financial information, copying and sharing music
MU.4.H.1.1:	Examine and describe a cultural tradition, other than one's own, learned through its musical style and/or use of authentic instruments.
MU.4.H.1.2:	Describe the influence of selected composers on the musical works and practices or traditions of their time.
MU.4.H.1.3:	Identify pieces of music that originated from cultures other than one's own.
MU.4.H.2.1:	Perform, listen to, and discuss music related to Florida's history. **Clarifications:** e.g., music of Stephen Foster; Spanish, African American, and Native American influences; folk music; early music used to heal, signal, impress, intimidate, immortalize
MU.4.H.2.2:	Identify ways in which individuals of varying ages and cultures experience music. **Clarifications:** e.g., live concert, musical theatre, Internet, recordings
MU.4.H.3.1:	Identify connections among music and other contexts, using correct music and other relevant content-area vocabulary, and explore how learning in one academic area can help with knowledge or skill acquisition in a different academic area. **Clarifications:** e.g., movement, form, repetition, rhythmic patterns/numeric patterns, fractions, vibrations/sound waves
MU.4.O.1.1:	Compare musical elements in different types of music, using correct music vocabulary, as a foundation for understanding the structural conventions of specific styles. **Clarifications:** e.g., rules of rhythm, melody, timbre, form, tonality, harmony, meter; styles: Classical, Baroque
MU.4.O.2.1:	Create variations for selected melodies.
MU.4.O.3.1:	Identify how expressive elements and lyrics affect the mood or emotion of a song. **Clarifications:** e.g., tempo, dynamics, phrasing, articulation
MU.4.O.3.2:	Apply expressive elements to a vocal or instrumental piece and, using correct music vocabulary, explain one's choices.
MU.4.S.1.1:	Improvise phrases, using familiar songs. **Clarifications:** e.g., altering text, rhythm, pitch, melody

MU.4.S.1.2:	Create melodic patterns using a variety of sound sources. **Clarifications:** e.g., voice, instrument
MU.4.S.1.3:	Arrange a familiar song for voices or instruments by manipulating form. **Clarifications:** e.g., introduction, interlude/bridge, coda, ABA, rondo
MU.4.S.2.1:	Apply knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsal and performance.
MU.4.S.3.1:	Sing rounds, canons, and/or partner songs in an appropriate range, using proper vocal technique and maintaining pitch.
MU.4.S.3.2:	Play rounds, canons, or layered ostinati on classroom instruments.
MU.4.S.3.3:	Perform extended pentatonic melodies at sight. **Clarifications:** e.g., high do, low sol, low la; vocal and/or instrumental
MU.4.S.3.4:	Play simple ostinati, by ear, using classroom instruments.
MU.4.S.3.5:	Notate simple rhythmic phrases and extended pentatonic melodies using traditional notation. **Clarifications:** e.g., rhythmic: quarter notes, beamed eighth notes, half notes, whole notes; corresponding rests; dotted half note; melodic: la-sol-mi-re-do
LAFS.4.RL.1.3:	Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade *4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. **Standard Relation to Course: Supporting**
LAFS.4.SL.1.2:	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.4.SL.1.3:	Identify the reasons and evidence a speaker provides to support particular points.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
PE.4.C.2.2:	Understand the importance of safety rules and procedures in all physical activities, especially those that are high risk. **Clarifications:** An example of a safety procedure is having students stand a safe distance away from a student swinging a golf club during striking activities.
PE.4.M.1.10:	Perform two or more dances accurately. **Clarifications:** Some examples of dances are line, square, contra, folk, step and social.
DA.4.H.3.3:	Describe how dance and music can each be used to interpret and support the other.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SC.4.P.10.3:	Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.

General Course Information and Notes

VERSION DESCRIPTION

Fourth-grade* students in music class explore artistic intent by investigating the inventive development of ideas, applying musicianship skills and techniques while engaging in the creation and interpretation of the arts. They analyze the characteristics of musical structures from simple to complex to build understanding and respect for the creative process. As they examine the significant cultural contributions in the arts throughout history, particularly in Florida, they become increasingly able to identify the connections among music and other fields of study. Music students also develop knowledge of careers in, and related to, the arts as they explore the impact of music on the local and global economies of the 21st century and strengthen personal skills for success throughout school and beyond.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

* Intermediate Music 1, 2, and 3 have been designed in two ways: 1) to challenge students on grade level who have previously taken classes in this content area; and 2) to challenge students whose education in this content area has been delayed until the intermediate grades. Music teachers of classes in Grades 3, 4, and 5 should select the most appropriate course level in the series based on each group's prior experience, the benchmarks, and available instruction time. Once elementary students have entered the series, they must progress to the next course in sequence.

Examples:

- A 3rd grade class that may or may not have taken Music previously should be enrolled in Intermediate Music 1 and progress through the series in subsequent grades.
- 4th graders beginning formal instruction in Music for the first time may be enrolled, as a class, in Intermediate Music 1, and must then progress to Intermediate Music 2 in the following year.

Special Note: This class may include opportunities to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >

Abbreviated Title: MUSIC-INTERM 2

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5,PreK

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

Music - Intermediate 3 (#5013110) 2015 - 2022 (current)

Course Standards

Name	Description
MU.5.C.1.1:	Discuss and apply listening strategies to support appreciation of musical works. **Clarifications:** e.g., focus: structure, instrumentation, tempo, dynamics, melodic line, rhythm patterns, style/genre; organize: listening maps, active listening, checklists
MU.5.C.1.2:	Hypothesize and discuss, using correct music vocabulary, the composer's intent for a specific musical work. **Clarifications:** e.g., title, historical notes, quality recordings, instrumentation, expressive elements
MU.5.C.1.3:	Identify, aurally, selected instruments of the band and orchestra. **Clarifications:** e.g., violin, cello, string bass, flute, clarinet, oboe, bassoon, trumpet, trombone, tuba, French horn, bass drum, snare drum, xylophone, chimes, piano, harpsichord
MU.5.C.1.4:	Identify, aurally, the four primary voice parts, i.e., soprano, alto, tenor, bass, of a mixed choir.
MU.5.C.2.1:	Define criteria, using correct music vocabulary, to critique one's own and others performance. **Clarifications:** e.g., intonation, balance, blend, timbre
MU.5.C.2.2:	Describe changes, using correct music vocabulary, in one's own and/or others performance over time.
MU.5.C.3.1:	Develop criteria to evaluate an exemplary musical work from a specific period or genre.
MU.5.F.1.1:	Create a performance, using visual, kinesthetic, digital, and/or acoustic means to manipulate musical elements.
MU.5.F.2.1:	Describe jobs associated with various types of concert venues and performing arts centers. **Clarifications:** e.g., music merchant, ticket agent, marketer, agent, security guard, food-and-beverage merchant
MU.5.F.2.2:	Explain why live performances are important to the career of the artist and the success of performance venues.
MU.5.F.3.1:	Examine and discuss the characteristics and behaviors displayed by successful student musicians that can be applied outside the music classroom. **Clarifications:** e.g., dedicated, works toward mastery, punctual, prepared, dependable, self-disciplined, solutions-oriented
MU.5.F.3.2:	Practice safe, legal, and responsible acquisition and use of music media, and describe why it is important to do so. **Clarifications:** e.g., downloading music and other digital media, sharing personal and financial information, copying music
MU.5.H.1.1:	Identify the purposes for which music is used within various cultures. **Clarifications:** e.g., communication, celebration, ceremony
MU.5.H.1.2:	Compare and describe the compositional characteristics used by two or more composers whose works are studied in class.
MU.5.H.1.3:	Compare stylistic and musical features in works originating from different cultures. **Clarifications:** e.g., use of rhythm, texture, tonality, use of folk melodies, improvisation, instrumentation, aural/oral traditions, principle drumming patterns
MU.5.H.2.1:	Examine the contributions of musicians and composers for a specific historical period.
MU.5.H.2.2:	Describe how technology has changed the way audiences experience music.
MU.5.H.3.1:	Examine critical-thinking processes in music and describe how they can be transferred to other disciplines. **Clarifications:** e.g., reading, writing, observing, listening, evaluating, embellishing, revising
MU.5.O.1.1:	Analyze, using correct music vocabulary, the use of musical elements in various styles of music as a foundation for understanding the creative process. **Clarifications:** e.g., rhythm patterns, melody, timbre, form, tonality, harmony, meter, key; styles: Classical, Baroque, Romantic, nationalistic, jazz
MU.5.O.2.1:	Create a new melody from two or more melodic motifs.
MU.5.O.3.1:	Examine and explain how expressive elements, when used in a selected musical work, affect personal response. **Clarifications:** e.g., tempo, dynamics, timbre, texture, phrasing, articulation
MU.5.O.3.2:	Perform expressive elements in a vocal or instrumental piece as indicated by the score and/or conductor.
MU.5.S.1.1:	Improvise rhythmic and melodic phrases to create simple variations on familiar melodies.
MU.5.S.1.2:	Compose short vocal or instrumental pieces using a variety of sound sources.
MU.5.S.1.3:	Arrange a familiar song by manipulating specified aspects of music. **Clarifications:** e.g., dynamics, tempo, lyrics, form, rhythm, instrumentation
MU.5.S.1.4:	Sing or play simple melodic patterns by ear with support from the teacher.

MU.5.S.2.1:	Use expressive elements and knowledge of musical structure to aid in sequencing and memorization and to internalize details of rehearsals and performance.
MU.5.S.2.2:	Apply performance techniques to familiar music.
MU.5.S.3.1:	Sing part songs in an appropriate range, using proper vocal technique and maintaining pitch.
MU.5.S.3.2:	Play melodies and accompaniments, using proper instrumental technique, on pitched and unpitched instruments.
MU.5.S.3.3:	Perform simple diatonic melodies at sight. **Clarifications:** e.g., vocal and/or instrumental
MU.5.S.3.4:	Play melodies and accompaniments, by ear, using classroom instruments.
MU.5.S.3.5:	Notate rhythmic phrases and simple diatonic melodies using traditional notation. **Clarifications:** e.g., rhythmic: quarter notes, beamed eighth notes, half notes, whole notes; corresponding rests; dotted half note; sixteenth notes; syncopation
LAFS.5.L.2.3:	Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style. b. Compare and contrast the varieties of English (e.g., *dialects, registers*) used in stories, dramas, or poems. **Standard Relation to Course: Supporting**
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. **Standard Relation to Course: Supporting**
LAFS.5.SL.1.2:	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
LAFS.5.SL.1.3:	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
TH.5.H.1.2:	Participate in a performance to explore and celebrate a variety of human experiences.

General Course Information and Notes

VERSION DESCRIPTION

Fifth-grade* students in music class develop and analyze the skills necessary for the critical assessment of artistic works and creative works in other contexts. They demonstrate the proficiency of comprehensive musicianship and interpretive skills in the arts, which allows them to explore manipulation of musical structures to represent a personal and creative form of artistic communication. As students become more musically sophisticated, they establish and document reciprocal relationships among music and other disciplines of study. They learn to transfer their music knowledge and innovative skills as a means of discovering the significant contributions of music and the arts, in general, to positive social development and global economic success in the 21st Century.

GENERAL NOTES

All instruction related to Music benchmarks should be framed by the Big Ideas and Enduring Understandings. Non-Music benchmarks listed in this course are also required and should be fully integrated in support of arts instruction.

* Intermediate Music 1, 2, and 3 have been designed in two ways: 1) to challenge students on grade level who have previously taken classes in this content area; and 2) to challenge students whose education in this content area has been delayed until the intermediate grades. Music teachers of classes in Grades 3, 4, and 5 should select the most appropriate course level in the series based on each group's prior experience, the benchmarks, and available instruction time. Once elementary students have entered the series, they must progress to the next course in sequence.

Examples:

- 3rd grade class that may or may not have taken Music previously should be enrolled in Intermediate Music 1 and progress through the series in subsequent grades.
- 4th graders beginning formal instruction in Music for the first time may be enrolled, as a class, in Intermediate Music 1, and must then progress to Intermediate Music 2 in the following year.

Special Note: This class may include opportunities to participate in extra rehearsals and performances beyond the school day.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 5013110

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Music Education > **SubSubject:** General >
Abbreviated Title: MUSIC-INTERM 3
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5,PreK

Educator Certifications

Music Education (Elementary Grades 1-6)
Music (Elementary and Secondary Grades K-12)
Vocal Music (Elementary and Secondary Grades K-12)

M/J Peer Counseling 1 (#1400000) 2015 - 2022 (current)

Course Standards

Name	Description
HE.6.B.4.1:	Determine strategies to improve effective verbal- and nonverbal-communication skills to enhance health. **Clarifications:** Role playing, short stories, and open-ended scenarios.
HE.6.B.4.2:	Practice refusal skills and negotiation skills to reduce health risks. **Clarifications:** Assertiveness, compromising, and use of "I" messages.
HE.6.B.5.1:	Investigate health-related situations that require the application of a thoughtful decision-making process. **Clarifications:** Peer pressure, exposure to unsupervised firearms, and tobacco use.
HE.6.B.5.2:	Choose healthy alternatives over unhealthy alternatives when making a decision. **Clarifications:** Not smoking, limiting sedentary activity, and practicing good character.
HE.6.C.2.8:	Determine how social norms may impact healthy and unhealthy behavior. **Clarifications:** Alcohol, tobacco and inhalant-use, bullying behaviors, and walking/biking vs. riding in a vehicle to a close location.
HE.6.P.8.4:	Identify ways health messages and communication techniques can be targeted for different audiences. **Clarifications:** Surveys, advertisements, music, and clothing.
HE.7.B.4.1:	Apply effective communication skills when interacting with others to enhance health. **Clarifications:** Clear and concise words, nonverbal language, discussion, "I" messages, and assertive vs. passive or aggressive communication.
HE.7.B.4.2:	Demonstrate refusal, negotiation, and collaboration skills to enhance health and reduce health risks. **Clarifications:** Working together, compromise, direct statement, peer mediation, personal boundaries, and reflective listening.
HE.7.B.4.3:	Articulate the possible causes of conflict among youth in schools and communities. **Clarifications:** Ethnic prejudice and diversity, substance use, group dynamics, relationship issues/dating violence, gossip/rumors, and sexual identity.
HE.7.B.4.4:	Demonstrate how to ask for assistance to enhance the health of self and others. **Clarifications:** "I" messages, ask on behalf of a friend, written request, riding in a vehicle with someone who is intoxicated, and bullying.
HE.7.B.5.2:	Select healthy alternatives over unhealthy alternatives when making a decision. **Clarifications:** Proper prescription-drug use, using safety equipment, Internet safety, and managing stress.
HE.8.B.5.2:	Categorize healthy and unhealthy alternatives to health-related issues or problems. **Clarifications:** (Alcohol consumption, sleep requirements, physical activity, and time management.)
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.7.RI.1.3:	Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).
LAFS.7.RI.3.8:	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
LAFS.7.W.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop awareness of self and others. Emphasis will be on acquisition of basic skills for thoughtful planning, peer facilitation, effective communication and making healthy choices.

The content should include, but not be limited to, the following:

- Peer Facilitating
- Human Needs
- Self Awareness and Expression
- Peer Pressure
- Peer and Family Relationships
- Conflict Resolution
- Goal Setting
- Social Skills
- Active Listening
- Personal Choices
- Healthy Lifestyles
- Effects of Stress

Special Notes:

Instructional Practices
Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high- level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1400000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >
Abbreviated Title: M/J PEER COUN 1
Course Length: Year (Y)
Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Peer Counseling 2 (#1400010) 2015 - 2022 (current)

Course Standards

Name	Description
HE.6.B.3.1:	Examine the validity of health information, and determine the cost of health products, and services. **Clarifications:** Advertisements, Internet, infomercials, articles, flyers, diet supplements, generic vs. name brand, individual fitness plan vs. gym membership, and private lessons vs. recreational play.
HE.6.B.4.1:	Determine strategies to improve effective verbal- and nonverbal-communication skills to enhance health. **Clarifications:** Role playing, short stories, and open-ended scenarios.
HE.6.B.4.2:	Practice refusal skills and negotiation skills to reduce health risks. **Clarifications:** Assertiveness, compromising, and use of "I" messages.
HE.6.B.4.3:	Demonstrate effective conflict-management and/or resolution strategies. **Clarifications:** Talk to an adult, anger management, and conflict mediation.
HE.6.B.5.1:	Investigate health-related situations that require the application of a thoughtful decision-making process. **Clarifications:** Peer pressure, exposure to unsupervised firearms, and tobacco use.
HE.6.B.5.2:	Choose healthy alternatives over unhealthy alternatives when making a decision. **Clarifications:** Not smoking, limiting sedentary activity, and practicing good character.
HE.6.B.5.3:	Specify the potential outcomes of each option when making a health-related decision. **Clarifications:** Physical, social, emotional, financial, and legal consequences, and emergency preparedness.
HE.6.B.6.2:	Develop an individual goal to adopt, maintain, or improve a personal health practice. **Clarifications:** Physical activity, eating habits, safety habits, computer use/safety, bullying-prevention skills, and personal hygiene.
HE.6.C.1.2:	Describe how the physical, mental/emotional, social, and intellectual dimensions of health are interrelated. **Clarifications:** Nutrition/mental alertness, interpersonal conflicts/emotional stress, sleep/physical stamina, and hunger/solving problems.
HE.6.C.2.2:	Examine how peers influence the health of adolescents. **Clarifications:** Conflict resolution skills, reproductive-health misinformation, and spreading rumors.
HE.6.C.2.3:	Identify the impact of health information conveyed to students by the school and community. **Clarifications:** First-aid education program, refusal-skills practice, and healthy body composition: BMI.
HE.6.C.2.6:	Propose ways that technology can influence peer and community health behaviors. **Clarifications:** Internet social media/networking sites, heart-rate monitors, and cross-walk signals.
HE.6.C.2.9:	Identify the influence of personal values, attitudes, and beliefs about individual health practices and behaviors. **Clarifications:** Curiosity, interests, fears, likes, and dislikes.
HE.6.P.7.1:	Explain the importance of assuming responsibility for personal-health behaviors. **Clarifications:** Medical/dental checkups, resisting peer pressure, and healthy relationships.
HE.6.P.8.1:	Practice how to influence and support others when making positive health choices. **Clarifications:** Encourage others to read food labels, promote physical activity, encourage practice of universal precautions, and leading by example.
HE.6.P.8.3:	Work cooperatively to advocate for healthy individuals, families, and schools. **Clarifications:** Media campaigns, posters, skits, and PSAs.
HE.7.B.3.1:	Analyze the validity of health information, products, and services. **Clarifications:** Advertisements, health-claim articles, personal-care product claims, and tobacco-use information, internet searches, store visits, newspaper use, phonebook search, and personal call to sources for information.

HE.7.B.4.1:	Apply effective communication skills when interacting with others to enhance health. **Clarifications:** Clear and concise words, nonverbal language, discussion, "I" messages, and assertive vs. passive or aggressive communication.
HE.7.B.4.2:	Demonstrate refusal, negotiation, and collaboration skills to enhance health and reduce health risks. **Clarifications:** Working together, compromise, direct statement, peer mediation, personal boundaries, and reflective listening.
HE.7.B.4.4:	Demonstrate how to ask for assistance to enhance the health of self and others. **Clarifications:** "I" messages, ask on behalf of a friend, written request, riding in a vehicle with someone who is intoxicated, and bullying.
HE.7.B.5.2:	Select healthy alternatives over unhealthy alternatives when making a decision. **Clarifications:** Proper prescription-drug use, using safety equipment, Internet safety, and managing stress.
HE.7.C.2.9:	Explain the influence of personal values, attitudes, and beliefs about individual health practices and behaviors. **Clarifications:** Social conformity, social status/appearance, experimentation with drugs, food relationships, and spirituality.
HE.7.P.7.1:	Examine the importance of assuming responsibility for personal-health behaviors. **Clarifications:** Physical activity, eating habits, stress management, quality of life, sexual behaviors, and adequate sleep.
HE.7.P.8.3:	Work cooperatively to advocate for healthy individuals, peers, and families. **Clarifications:** Assist with or conduct needs assessments, write advocacy letters, and volunteer at information kiosks.
HE.8.B.3.2:	Analyze the accessibility, validity, and reliability of products and services that enhance home, school, and community health. **Clarifications:** Reliability of advertisements, articles, infomercials, and web-based products; health department; community agencies; and prescribed medications vs. over-the-counter.
HE.8.B.5.2:	Categorize healthy and unhealthy alternatives to health-related issues or problems. **Clarifications:** (Alcohol consumption, sleep requirements, physical activity, and time management.)
HE.8.C.2.3:	Analyze how the school and community may influence adolescent health. **Clarifications:** Drug-abuse education programs, volunteering opportunities, and availability of recreational facilities/programs.
HE.8.C.2.8:	Explain how the perceptions of norms influence healthy and unhealthy behaviors. **Clarifications:** Sexual abstinence, prescription-drug use, marijuana use, and perception that certain abusive-relationship behaviors are "normal."
HE.8.P.8.3:	Work cooperatively to advocate for healthy individuals, peers, families, and schools. **Clarifications:** Promote community initiatives; create media campaigns, peer-led prevention campaigns, and school wellness councils.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.7.RI.1.3:	Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).
LAFS.7.RI.3.8:	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to further develop awareness of self and others. Emphasis will be on acquisition of intermediate level skills for thoughtful planning, peer facilitation, effective communication and making healthy choices.

The content should include, but not be limited to, the following:

- Peer Facilitating
- Behavioral Dynamics
- Human Needs
- Group Dynamics
- Leadership Skills
- Intra/Interpersonal Skills
- Peer and Family Relationships
- Conflict Resolution
- School/Community Resources
- Mediation
- Effective Communication
- Problem Solving

Special Notes:

Instructional Practices
Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1400010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >
Abbreviated Title: M/J PEER COUN 2
Course Length: Year (Y)
Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Peers as Partners in Learning (#1400025) 2019 - 2022 (current)

Course Standards

Name	Description
LAFS.6.RI.1.3:	Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).
LAFS.6.RI.2.4:	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.2.5:	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
LAFS.6.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from the information or explanation presented.
LAFS.6.W.2.6:	Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.
LAFS.6.W.3.7:	Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.
LAFS.7.RI.1.3:	Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).
LAFS.7.RI.2.4:	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
LAFS.7.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.7.W.2.6:	Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.
LAFS.7.W.3.7:	Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
LAFS.8.RI.1.3:	Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).
LAFS.8.RI.2.4:	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and

LAFS.8.SL.1.1:	issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
LAFS.8.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.8.W.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.
LAFS.8.W.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
HE.6.B.4.3:	Demonstrate effective conflict-management and/or resolution strategies. **Clarifications:** Talk to an adult, anger management, and conflict mediation.
HE.6.B.4.4:	Compile ways to ask for assistance to enhance the health of self and others. **Clarifications:** Verbalize, write, and ask others for help.
HE.6.C.2.8:	Determine how social norms may impact healthy and unhealthy behavior. **Clarifications:** Alcohol, tobacco and inhalant-use, bullying behaviors, and walking/biking vs. riding in a vehicle to a close location.
HE.7.B.4.3:	Articulate the possible causes of conflict among youth in schools and communities. **Clarifications:** Ethnic prejudice and diversity, substance use, group dynamics, relationship issues/dating violence, gossip/rumors, and sexual identity.
HE.7.B.4.4:	Demonstrate how to ask for assistance to enhance the health of self and others. **Clarifications:** "I" messages, ask on behalf of a friend, written request, riding in a vehicle with someone who is intoxicated, and bullying.
HE.7.C.2.8:	Evaluate how changes in social norms impact healthy and unhealthy behavior. **Clarifications:** Secondhand smoke, menu items at restaurants, anti-bullying behavior, and social norms that justify/promote violence.
HE.8.B.4.3:	Examine the possible causes of conflict among youth in schools and communities. **Clarifications:** Relationships, territory, jealousy, and gossip/rumors.
HE.8.B.4.4:	Compare and contrast ways to ask for and offer assistance to enhance the health of self and others. **Clarifications:** Compare responses, passive vs. assertive, written vs. spoken, and anonymous vs. face-to-face.
HE.8.C.2.8:	Explain how the perceptions of norms influence healthy and unhealthy behaviors. **Clarifications:** Sexual abstinence, prescription-drug use, marijuana use, and perception that certain abusive-relationship behaviors are "normal."
SS.7.C.2.11:	Analyze media and political communications (bias, symbolism, propaganda). **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 44-45. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.12:	Develop a plan to resolve a state or local problem by researching public policy alternatives, identifying appropriate government agencies to address the issue, and determining a course of action. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 46-47. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.14:	Conduct a service project to further the public good. **Clarifications:** The project can be at the school, community, state, national, or international level.

SS.7.C.3.6:	Evaluate Constitutional rights and their impact on individuals and society. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 57. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

General Course Information and Notes

VERSION DESCRIPTION

This course is designed to provide reciprocal academic and social benefits to students with disabilities and their peers without disabilities. Students enrolled in the course will learn and apply knowledge and skilled practices in the areas of academic engagement, communication, social barriers, leadership, problem solving, and other disability-related topics such as historical perspectives, inclusion, Universal Design for Learning, person-first language, presumed competence, equitable services for students with disabilities, and media representation of diverse people.

The content and concepts should include, but not be limited to, the following:

- Know and understand the legal and human rights of people with disabilities and their families.
- Understand and apply the concepts of confidentiality and self-determination.
- Understand historical events and aspects of disability and their influence on current attitudes, beliefs, and practices.
- Build awareness and understanding, through research and communication, of disability rights issues in the local community and beyond.
- Apply methods for problem-solving and advocacy (including self-advocacy for students with disabilities).
- Apply knowledge and strategies to promote learning for people with disabilities, in inclusive settings, through academic, communication, physical and social supports.
- Facilitate meaningful peer relationships in and out of school.
- Understand and facilitate team and cooperative learning skills among all students.
- Contribute to the concept of civic responsibility by researching and communicating information about equitable services in a democratic society.
- Design and implement one or more projects to demonstrate knowledge, understanding, and application of course content and concepts.
- Assess and evaluate the impact of course efforts on self and others.

This course should be taught using the appropriate standards/benchmarks for the grade.

GENERAL INFORMATION

Course Number: 1400025

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >
Abbreviated Title: M/J PEERS/PART LRNG
Course Length: Multiple (M) - Course length can vary

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Educator Certifications

Exceptional Student Education (Elementary and Secondary Grades K-12)
Emotionally Handicapped (Elementary and Secondary Grades K-12)
Hearing Impaired (Grades K-12)
Mentally Handicapped (Elementary and Secondary Grades K-12)
Specific Learning Disabilities (Elementary and Secondary Grades K-12)
Speech Language Impaired (Elementary and Secondary Grades K-12)
Varying Exceptionalities (Elementary and Secondary Grades K-12)
Visually Impaired (Elementary and Secondary Grades K-12)

Peer Counseling 1 (#1400300) 2015 - 2022 (current)

Course Standards

Name	Description
HE.912.B.3.1:	Verify the validity of health information, products, and services. **Clarifications:** Understanding product-packaging claims, magazine articles, diet/nutritional supplements, energy drinks, exercise video or equipment, tanning salon, fitness club, health professionals, health-related community resources, CPR procedure, qualifications of service provider, type of service, type of product, product safety, and reliability.
HE.912.B.4.1:	Explain skills needed to communicate effectively with family, peers, and others to enhance health. **Clarifications:** Using "I" messages, voice pitch/volume, eye contact, journal experiences, writing letters, persuasive speech, and assertive communication.
HE.912.B.4.2:	Assess refusal, negotiation, and collaboration skills to enhance health and avoid or reduce health risks. **Clarifications:** Validate other's opinions, use direct statement, use active statement, and offer alternatives.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.4.4:	Analyze the validity of ways to ask for and offer assistance to enhance the health of self and others. **Clarifications:** Verbal and written communication, active listening, and how to seek help for a friend.
HE.912.B.5.3:	Appraise the potential short-term and long-term outcomes of each alternative on self and others. **Clarifications:** Nutrition plan based on personal needs and preferences, impact of chronic health condition on individual and family, weapons on campus, and use of stress management and coping skills.
HE.912.B.5.5:	Examine barriers that can hinder healthy decision making. **Clarifications:** Interpersonal, financial, environmental factors, and accessibility of health information.
HE.912.C.1.1:	Predict how healthy behaviors can affect health status. **Clarifications:** Making positive choices/avoiding risky behaviors: healthy food, substance abuse, and healthy relationship skills; regular medical and dental screenings; regular physical activity, and workplace safety.
HE.912.C.1.2:	Interpret the significance of interrelationships in mental/emotional, physical, and social health. **Clarifications:** Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.
HE.912.C.2.6:	Evaluate the impact of technology on personal, family, and community health. **Clarifications:** Automated external defibrillator in the community, pedestrian crosswalks with audible directions, type of information requested from local 211/hotlines or websites, consumer websites, Internet safety, and disease prevention and control.
HE.912.P.8.3:	Work cooperatively as an advocate for improving personal, family, and community health. **Clarifications:** Support local availability of healthy food options; environmentally friendly shopping; victim, drug or teen court advocacy; advocate for peer-led abuse-prevention education programs, community resource information; and home/school safety.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop basic knowledge and skills in communication, meeting human needs, and conflict resolution.

The content should include the following:

- Demonstrate knowledge of the functions and responsibilities of peer facilitators (e.g., listening, confidentiality, team building, conflict resolution, intervention).
- Demonstrate awareness of varied behavioral responses to situational, environmental, and chemical elements; and the impact of subsequent decision-making on self and others.
- Demonstrate knowledge of basic human needs (e.g., food, clothing, shelter, recognition, development, security, identity) and the ways in which they can be met while developing group cohesion.
- Demonstrate use of basic facilitative communication skills (e.g., listening, questioning, feedback, paraphrasing, nonverbal communication, nonjudgmental response).
- Identify own feelings and needs and communicate them in a positive way.
- Demonstrate awareness of leadership styles (e.g., authoritarian, democratic, permissive).
- Demonstrate awareness of methods for dealing with conflict (e.g., communication, assertion, avoidance, aggression) and steps to resolution (i.e., set rules, gather perspectives, identify needs and goals, create and evaluate options, and generate agreement)
- Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

Special Notes:

Instructional Practices Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lesson.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1400300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >
Abbreviated Title: PEER COUN 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Peer Counseling 2 (#1400310) 2015 - 2022 (current)

Course Standards

Name	Description
HE.912.B.4.1:	Explain skills needed to communicate effectively with family, peers, and others to enhance health. **Clarifications:** Using "I" messages, voice pitch/volume, eye contact, journal experiences, writing letters, persuasive speech, and assertive communication.
HE.912.B.4.2:	Assess refusal, negotiation, and collaboration skills to enhance health and avoid or reduce health risks. **Clarifications:** Validate other's opinions, use direct statement, use active statement, and offer alternatives.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.4.4:	Analyze the validity of ways to ask for and offer assistance to enhance the health of self and others. **Clarifications:** Verbal and written communication, active listening, and how to seek help for a friend.
HE.912.B.5.1:	Determine the value of applying a thoughtful decision-making process in health-related situations. **Clarifications:** Defining healthy boundaries and relationships, sexual activity, alcohol consumption, organ-donor decisions, child care, protection against infectious agents, wellness promotion, and first-aid-treatment options.
HE.912.B.5.5:	Examine barriers that can hinder healthy decision making. **Clarifications:** Interpersonal, financial, environmental factors, and accessibility of health information.
HE.912.C.1.1:	Predict how healthy behaviors can affect health status. **Clarifications:** Making positive choices/avoiding risky behaviors: healthy food, substance abuse, and healthy relationship skills; regular medical and dental screenings; regular physical activity, and workplace safety.
HE.912.C.1.2:	Interpret the significance of interrelationships in mental/emotional, physical, and social health. **Clarifications:** Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.2.1:	Analyze how the family influences the health of individuals. **Clarifications:** Nutritional management of meals, composition of and relationships within families, and health-insurance status.
HE.912.C.2.3:	Assess how the school and community can affect personal health practice and behaviors. **Clarifications:** Healthier foods, required health education, health screenings, and enforcement of "no tolerance" policies related to all forms of violence, and AED availability and training.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop intermediate-level knowledge and skills in communication, personal and group dynamics, and conflict resolution.

The content should include the following:

- Demonstrate understanding of the functions and responsibilities of peer facilitators (listening, team building, confidentiality, conflict resolution, and intervention).
- Demonstrate knowledge of varied behavioral responses to situational, environmental, and chemical elements; and the impact of subsequent decision-making on self and others.
- Demonstrate understanding of the impact of self-knowledge and interpersonal skills on relationships with peers and family.
- Demonstrate knowledge of the positive and negative impacts of peer pressure on oneself and on relationships with peers and family.
- Demonstrate use of intermediate-level facilitative communication skills (listening, questioning, feedback, paraphrasing, nonverbal communication, nonjudgmental response).
- Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

Special Notes:

Instructional Practices Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1400310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >
Abbreviated Title: PEER COUN 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Peer Counseling 3 (#1400320) 2015 - 2022 (current)

Course Standards

Name	Description
HE.912.B.3.1:	Verify the validity of health information, products, and services. **Clarifications:** Understanding product-packaging claims, magazine articles, diet/nutritional supplements, energy drinks, exercise video or equipment, tanning salon, fitness club, health professionals, health-related community resources, CPR procedure, qualifications of service provider, type of service, type of product, product safety, and reliability.
HE.912.B.4.1:	Explain skills needed to communicate effectively with family, peers, and others to enhance health. **Clarifications:** Using "I" messages, voice pitch/volume, eye contact, journal experiences, writing letters, persuasive speech, and assertive communication.
HE.912.B.4.2:	Assess refusal, negotiation, and collaboration skills to enhance health and avoid or reduce health risks. **Clarifications:** Validate other's opinions, use direct statement, use active statement, and offer alternatives.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.4.4:	Analyze the validity of ways to ask for and offer assistance to enhance the health of self and others. **Clarifications:** Verbal and written communication, active listening, and how to seek help for a friend.
HE.912.B.5.1:	Determine the value of applying a thoughtful decision-making process in health-related situations. **Clarifications:** Defining healthy boundaries and relationships, sexual activity, alcohol consumption, organ-donor decisions, child care, protection against infectious agents, wellness promotion, and first-aid-treatment options.
HE.912.B.6.4:	Formulate an effective long-term personal health plan. **Clarifications:** Stress reduction, weight management, healthier eating habits, improved physical fitness, and individual responsibilities for protecting health.
HE.912.C.1.1:	Predict how healthy behaviors can affect health status. **Clarifications:** Making positive choices/avoiding risky behaviors: healthy food, substance abuse, and healthy relationship skills; regular medical and dental screenings; regular physical activity, and workplace safety.
HE.912.C.1.2:	Interpret the significance of interrelationships in mental/emotional, physical, and social health. **Clarifications:** Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.2.1:	Analyze how the family influences the health of individuals. **Clarifications:** Nutritional management of meals, composition of and relationships within families, and health-insurance status.
HE.912.C.2.2:	Compare how peers influence healthy and unhealthy behaviors. **Clarifications:** Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.
HE.912.C.2.3:	Assess how the school and community can affect personal health practice and behaviors. **Clarifications:** Healthier foods, required health education, health screenings, and enforcement of "no tolerance" policies related to all forms of violence, and AED availability and training.
HE.912.P.8.2:	Utilize current, accurate data/information to formulate a health-enhancing message. **Clarifications:** Validate perceptions of peers and societal norms regarding drug use, violence, sexual activity, visiting parenting-focused websites, data provided by government or community agencies, societal influences on the workplace, and teen-driving safety.
HE.912.P.8.3:	Work cooperatively as an advocate for improving personal, family, and community health. **Clarifications:** Support local availability of healthy food options; environmentally friendly shopping; victim, drug or teen court advocacy; advocate for peer-led abuse-prevention education programs, community resource information; and home/school safety.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop proficient knowledge and skills in communication, personal and group dynamics, and conflict resolution. Emphasis will be on the issues and concerns of students within the school.

The content should include the following:

- Select and use appropriate, effective leadership and interpersonal skills and techniques in group settings.
- Demonstrate knowledge of varied behavioral responses to situational, environmental, and chemical elements; and the impact of subsequent decision-making on self and others.
- Demonstrate use of proficient facilitative communication skills (listening, feedback, nonverbal communication, nonjudgmental response, repairing communication breakdown).
- Demonstrate understanding of methods for dealing with conflict (communication, assertion, avoidance, aggression) and use strategies specific to varied types of conflict to facilitate resolution.
- Demonstrate knowledge of varied school and community resources (school counseling center, School Resource Officer, community mental health services, public health services, AIDS clinic, rape crisis center, drug and alcohol intervention/prevention programs, hotlines, Internet).
- Assess needs and issues among individuals and groups of students within the school.
- Work cooperatively to plan, implement, and evaluate effective student programs designed to address needs and issues identified through assessment.

Special Notes:

Instructional Practices Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1400320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >

Abbreviated Title: PEER COUN 3

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course
Course Level: 2
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

Peer Counseling 4 (#1400330) 2015 - 2022 (current)

Course Standards

Name	Description
HE.912.B.3.1:	Verify the validity of health information, products, and services. **Clarifications:** Understanding product-packaging claims, magazine articles, diet/nutritional supplements, energy drinks, exercise video or equipment, tanning salon, fitness club, health professionals, health-related community resources, CPR procedure, qualifications of service provider, type of service, type of product, product safety, and reliability.
HE.912.B.3.2:	Compile data reflecting the accessibility of resources from home, school, and community that provide valid health information. **Clarifications:** Internet, family member, nurse, guidance counselor, physician, clinic, hotline, support group, community agency, domestic/dating-violence service provider, and first-aid training location, expense, services available, eligibility, scheduling appointments, healthcare, and mental-health resources.
HE.912.B.3.4:	Justify when professional health services or providers may be required. **Clarifications:** Injury, depression, suicide, drug abuse, medical emergency, 911, child abuse, domestic and/or dating violence, and natural or man-made conditions.
HE.912.B.4.2:	Assess refusal, negotiation, and collaboration skills to enhance health and avoid or reduce health risks. **Clarifications:** Validate other's opinions, use direct statement, use active statement, and offer alternatives.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.4.4:	Analyze the validity of ways to ask for and offer assistance to enhance the health of self and others. **Clarifications:** Verbal and written communication, active listening, and how to seek help for a friend.
HE.912.B.5.3:	Appraise the potential short-term and long-term outcomes of each alternative on self and others. **Clarifications:** Nutrition plan based on personal needs and preferences, impact of chronic health condition on individual and family, weapons on campus, and use of stress management and coping skills.
HE.912.C.1.1:	Predict how healthy behaviors can affect health status. **Clarifications:** Making positive choices/avoiding risky behaviors: healthy food, substance abuse, and healthy relationship skills; regular medical and dental screenings; regular physical activity, and workplace safety.
HE.912.C.1.2:	Interpret the significance of interrelationships in mental/emotional, physical, and social health. **Clarifications:** Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.
HE.912.C.2.3:	Assess how the school and community can affect personal health practice and behaviors. **Clarifications:** Healthier foods, required health education, health screenings, and enforcement of "no tolerance" policies related to all forms of violence, and AED availability and training.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.
HE.912.P.8.3:	Work cooperatively as an advocate for improving personal, family, and community health. **Clarifications:** Support local availability of healthy food options; environmentally friendly shopping; victim, drug or teen court advocacy; advocate for peer-led abuse-prevention education programs, community resource information; and home/school safety.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop advanced knowledge and skills in communication, personal and group dynamics, and conflict resolution. Emphasis will be on program development and intervention for students in the school and community.

The content should include the following:

- Select and use appropriate, effective leadership and interpersonal skills and techniques in group settings.
- Demonstrate understanding of varied behavioral responses to situational, environmental, and chemical elements; and the impact of subsequent decision-making on self and others.
- Demonstrate use of advanced facilitative communication skills (listening, feedback, nonverbal communication, nonjudgmental response, repairing communication breakdown).
- Demonstrate understanding of methods for dealing with conflict (communication, assertion, avoidance, aggression) and use strategies specific to varied types of conflict to facilitate resolution.
- Demonstrate knowledge of varied school and community resources (school counseling center, School Resource Officer, community mental health services, public health services, AIDS clinic, drug and alcohol intervention/prevention programs, rape crisis center, hotlines, Internet).
- Analyze feedback and previous assessments to identify current needs and issues within the school or community.
- Work cooperatively to plan, implement, and evaluate effective student programs designed to address needs and issues identified through assessment.

Special Notes:

Instructional Practices Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1400330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >

Abbreviated Title: PEER COUN 4

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Peers as Partners in Learning (#1400340) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.1112.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
LAFS.1112.RI.3.7:	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.1112.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.910.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
LAFS.910.RI.3.7:	Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.910.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and

	following a standard format for citation.
SS.912.C.2.5:	Conduct a service project to further the public good. **Clarifications:** Examples are school, community, state, national, international.
SS.912.P.9.8:	Discuss the nature and effects of stereotyping, prejudice, and discrimination.
SS.912.P.10.3:	Discuss the relationship between culture and conceptions of self and identity.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
SS.912.P.12.5:	Describe obstacles to decision making. **Clarifications:** Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.
SS.912.S.8.4:	Define a social issue to be analyzed.
SS.912.S.8.9:	Identify a community social problem and discuss appropriate actions to address the problem.
SS.912.S.8.10:	Investigate how incorrect communications, such as rumors or gossip, can influence group behavior. **Clarifications:** Examples may include, but are not limited to, Orson Welles "The War of the Worlds" radio broadcast, and rumors in the mass media, on the internet, or in the community.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.912.C.2.2:	Compare how peers influence healthy and unhealthy behaviors. **Clarifications:** Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.

General Course Information and Notes

GENERAL NOTES

This course is designed to provide reciprocal academic and social benefits to students with disabilities and their peers without disabilities. Students enrolled in this course will learn and apply knowledge and skilled practices in the areas of academic engagement, communication, social barriers, leadership, problem solving, and other disability-related topics such as historical perspectives, inclusion, Universal Design for Learning, person-first language, presumed competence, social justice for minority populations, and media representation of diverse people.

The content and concepts should include but not limited to the following:

- Know and understand the legal and human rights of people with disabilities and their families.
- Understand and apply the concepts of confidentiality and self-determination.
- Understand historical events and aspects of disability and their influence on current attitudes, beliefs, and practices.
- Build awareness and understanding, through research and communication, of disability rights issues in the local community and beyond.
- Apply methods for problem-solving and advocacy (including self-advocacy for students with disabilities).
- Apply knowledge and strategies to promote learning for people with disabilities, in inclusive settings, through academic, communication, physical and social supports.
- Facilitate meaningful peer relationships in and out of school.
- Understand and facilitate team and cooperative learning skills among all students.
- Contribute to the concept of civic responsibility by researching and communicating information about social justice in a democratic society.
- Design and implement one or more projects to demonstrate knowledge, understanding, and application of course content and concepts.
- Assess and evaluate the impact of course efforts on self and others.

This course should be taught using the appropriate standards/benchmarks for the grade.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

GENERAL INFORMATION

Course Number: 1400340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Peer Counseling > **SubSubject:** General >

Abbreviated Title: PEER/PARTNERS LRNG

Number of Credits: Multiple Credit (more than 1 credit)

Course Length: Multiple (M) - Course length can vary

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Exceptional Student Education (Elementary and Secondary Grades K-12)
Emotionally Handicapped (Elementary and Secondary Grades K-12)
Hearing Impaired (Grades K-12)
Mentally Handicapped (Elementary and Secondary Grades K-12)
Specific Learning Disabilities (Elementary and Secondary Grades K-12)
Speech Language Impaired (Elementary and Secondary Grades K-12)
Varying Exceptionalities (Elementary and Secondary Grades K-12)
Visually Impaired (Elementary and Secondary Grades K-12)

M/J Adaptive Physical Education IEP or 504 Plan (MC) (#1500000) 2015 - 2022 (current)

Course Standards

Name	Description
PE.6.C.2.2:	List safety procedures that should be followed when engaging in activities to improve the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.C.2.6:	Classify activities as aerobic or anaerobic.
PE.6.C.2.13:	List appropriate warm-up and cool-down techniques and the reasons for using them.
PE.6.C.2.14:	List terminology and etiquette in educational gymnastics or dance.
PE.6.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.6.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.6.L.4.4:	Develop a personal fitness program including a variety of physical activities.
PE.6.M.1.4:	Perform at least three activities having value for cardiorespiratory fitness.
PE.6.M.1.5:	Perform movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.
PE.6.M.1.9:	Create and perform a rhythmic movement sequence while working with a partner or group.
PE.6.M.1.10:	Design and perform different group dance and rhythm sequences that incorporate equipment.
PE.6.M.1.11:	Apply proper warm-up and cool-down techniques.
PE.6.M.1.12:	Use proper safety practices. **Clarifications:** Some examples of safety practices are the use of sun screen, hydration, selection of clothing and correct biomechanics.
PE.6.R.5.1:	List ways that peer pressure can be positive and negative.
PE.6.R.5.2:	Demonstrate acceptance and respect for persons of diverse backgrounds and abilities in physical-activity settings.
PE.6.R.5.3:	Demonstrate responsible behaviors during physical activities. **Clarifications:** Some examples of responsible behaviors are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.6.R.5.4:	Describe the personal, social and ethical behaviors that apply to specific physical activities.
PE.6.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.6.R.6.3:	Participate in games, sports and/or physical activities from other cultures.
PE.7.C.2.1:	Identify the basic rules for team sports. **Clarifications:** Some examples are setting up to start, violating rules and keeping accurate score.
PE.7.C.2.2:	Identify the basic rules for outdoor pursuits/aquatics. **Clarifications:** Some examples are setting up to start, violating rules and keeping accurate score.
PE.7.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.7.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.7.M.1.1:	Participate in modified versions of team sports demonstrating mature patterns while using a variety of manipulative skills. **Clarifications:** Some examples of manipulative skills are throwing, catching, kicking, punting, trapping, dribbling, volleying and striking.
PE.7.M.1.7:	Utilize proper equipment and implement appropriate safety procedures for participation in a variety of sports or activities.
PE.7.R.5.1:	Identify situations in which peer pressure could negatively impact one's own behavior choices.
PE.7.R.6.2:	Discuss the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.6.RI.3.7:	Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

General Course Information and Notes

VERSION DESCRIPTION

Content for students enrolled in this course should be based upon each individual students IEP or 504 Plan.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1500000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** Adaptive >
Abbreviated Title: M/J ADAP PE IEP/504
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Physical Education Transfer (#1500220) 2015 - 2022 (current)

General Course Information and Notes

GENERAL NOTES

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 1500220

Course Type: Transfer Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** Adaptive >

Abbreviated Title: M/J PHYS ED TRAN

Course Length: Not Applicable

Course Level: 2

Completion of Interscholastic Sports Season 1 (#1500410) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: INTERSCH SSN 1 - COM
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

Completion of Interscholastic Sports Season 2 (#1500420) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: INTERSCH SSN 2 - COM
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

Marching Band PE Waiver (must be combined with Personal Fitness course) (#1500440) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500440

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: MCHG BAND PE WAIVER
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

Dance Waiver (must be combined with Personal Fitness course) (#1500445) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500445

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: DANCE WAIVER
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

JROTC/Physical Education Waiver - Completion of Year 1 (#1500450) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500450

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: JROTC/PE YR1 WAIVER
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

JROTC/Physical Education Waiver - Completion of Year 2 (#1500460) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500460

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: JROTC/PE YR2 WAIVER
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

JROTC/Physical Education Waiver-Complete JROTC Y1,Y2 & Personal Fitness (#1500470) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500470

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: JROTC/PE WAIVER COMP
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

JROTC/PE/Performing Arts Waiver-HOPE & Personal Fitness/PE Elective (#1500480) 2015 - 2022 (current)

General Course Information and Notes

GENERAL INFORMATION

Course Number: 1500480

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: JROTC/PE/PF WAIVER
Course Length: Not Applicable

Course Type: Course Waiver
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

Physical Education Transfer (#1500990) 2015 - 2022 (current)

General Course Information and Notes

VERSION DESCRIPTION

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 1500990

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Waivers >
Abbreviated Title: PE TRAN
Course Length: Not Applicable

Course Type: Transfer Course
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

M/J International Baccalaureate MYP Comprehensive Physical Education 1 (#1501130) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1501130

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J IB MYP COMP PE 1
Course Length: Year (Y)
Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course
Course Status: Course Approved

Course Level: 3

M/J International Baccalaureate MYP Comprehensive Physical Education 2 (#1501131) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1501131

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J IB MYP COMP PE 2
Course Length: Year (Y)
Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course
Course Status: Course Approved

Course Level: 3

M/J International Baccalaureate MYP Comprehensive Physical Education 3 (#1501132) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1501132

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J IB MYP COMP PE 3
Course Length: Year (Y)
Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course
Course Status: Course Approved

Course Level: 3

M/J International Baccalaureate MYP Physical and Health Education 1 (#1501133) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1501133

Course Status: Course Approved

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >

Abbreviated Title: M/J IB MYP PHY&HE ED1

Course Length: Semester (S)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

M/J International Baccalaureate MYP Physical and Health Education 2 (#1501134) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1501134

Course Status: Course Approved

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >

Abbreviated Title: M/J IB MYP PHY&HE ED2

Course Length: Semester (S)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

M/J International Baccalaureate MYP Physical and Health Education 3 (#1501135) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1501135

Course Status: Course Approved

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >

Abbreviated Title: M/J IB MYP PHY&HE ED3

Course Length: Semester (S)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

M/J Physical Education Cambridge Lower Secondary (#1501140) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information on this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-lower-secondary/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1501140

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >

Abbreviated Title: M/J PE CAMB LOWERSEC

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Personal Fitness (#1501300) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.18:	Differentiate between fact and fallacy as it relates to consumer physical fitness products and programs. **Clarifications:** Some examples are weight-loss pills, food labels and exercise equipment.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.1:	Design a personal fitness program. **Clarifications:** Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.3:	Identify strategies for setting goals when developing a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.L.4.6:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.

PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
HE.912.B.6.4:	Formulate an effective long-term personal health plan. **Clarifications:** Stress reduction, weight management, healthier eating habits, improved physical fitness, and individual responsibilities for protecting health.
HE.912.C.1.1:	Predict how healthy behaviors can affect health status. **Clarifications:** Making positive choices/avoiding risky behaviors: healthy food, substance abuse, and healthy relationship skills; regular medical and dental screenings; regular physical activity, and workplace safety.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.
HE.912.C.2.2:	Compare how peers influence healthy and unhealthy behaviors. **Clarifications:** Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.
HE.912.C.2.5:	Evaluate the effect of media on personal and family health. **Clarifications:** Compares brand-name/store-brand items in home, analyzes television viewing habits, identifies effective PSAs, consumer skills, advertisements of health-related community resources, participation in risky behaviors, and deconstructs media to identify promotion of unhealthy stereotypes, and normalization of violence.
HE.912.P.7.1:	Analyze the role of individual responsibility in enhancing health. **Clarifications:** Food choices, media messages, future impact of lifestyle choices, individual responsibility for health protection, and stress management.
HE.912.P.7.2:	Evaluate healthy practices and behaviors that will maintain or improve health and reduce health risks. **Clarifications:** Lifestyle choices: drug use/abuse, healthy diet, controlling modes of transmission of infectious agents, riding with impaired drivers, seeking mental-health services when needed, sexual behavior, and engaging in healthy relationships.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.910.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

The purpose of this course is to provide students with the knowledge, skills, and values they need to become healthy and physically active for a lifetime. This course addresses both the health and skill-related components of physical fitness which are critical for students' success.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: PERS FIT

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

International Baccalaureate MYP Physical Education (#1501305) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1501305

Number of Credits: Half credit (.5)

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: IB MYP PE

Course Length: Semester (S)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Fitness Lifestyle Design (#1501310) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.13:	Document food intake, calories consumed and energy expended through physical activity and analyze the results.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.910.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the

	characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >
Abbreviated Title: FIT LIFST DESIGN

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Fitness Issues for Adolescence (#1501320) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.13:	Document food intake, calories consumed and energy expended through physical activity and analyze the results.
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.18:	Differentiate between fact and fallacy as it relates to consumer physical fitness products and programs. **Clarifications:** Some examples are weight-loss pills, food labels and exercise equipment.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.1:	Design a personal fitness program. **Clarifications:** Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.1:	Describe ways to act independently of peer pressure during physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
LAFS.910.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness > **Abbreviated Title:** FIT ISSUES FOR ADOL

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Weight Training 1 (#1501340) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.3:	Analyze the movement performance of self and others. **Clarifications:** Some examples are video analysis and checklist.
PE.912.C.2.6:	Compare and contrast the health-related benefits of various physical activities.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:**

	In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

VERSION DESCRIPTION

The purpose of this course is to develop the physical skills necessary to be competent in many forms of movement as it relates to weight training. The integration of fitness concepts throughout the content is critical to the success of this course.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >
Abbreviated Title: WEIGHT TRAIN 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Weight Training 2 (#1501350) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★

MAFS.912.S-ID.1.2:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: WEIGHT TRAIN 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Weight Training 3 (#1501360) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★

MAFS.912.S-ID.1.2:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >
Abbreviated Title: WEIGHT TRAIN 3

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Personal Fitness Trainer (#1501380) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.6:	Compare and contrast the health-related benefits of various physical activities.
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.8:	Differentiate between the three different types of heat illnesses associated with fluid loss. **Clarifications:** The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.11:	Explain how each of the health-related components of fitness are improved through the application of training principles. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.C.2.12:	Compare and contrast aerobic versus anaerobic activities.
PE.912.C.2.13:	Document food intake, calories consumed and energy expended through physical activity and analyze the results.
PE.912.C.2.14:	Compare and contrast the skill-related components of fitness used in various physical activities. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.18:	Differentiate between fact and fallacy as it relates to consumer physical fitness products and programs. **Clarifications:** Some examples are weight-loss pills, food labels and exercise equipment.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.1:	Design a personal fitness program. **Clarifications:** Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.3:	Identify strategies for setting goals when developing a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.L.4.6:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.

PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.17:	Demonstrate basic cardiopulmonary resuscitation (CPR) procedures.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
SC.912.L.14.12:	Describe the anatomy and histology of bone tissue.
SC.912.L.14.16:	Describe the anatomy and histology, including ultrastructure, of muscle tissue.
SC.912.L.14.17:	List the steps involved in the sliding filament of muscle contraction.
SC.912.L.14.19:	Explain the physiology of skeletal muscle.
SC.912.L.14.20:	Identify the major muscles of the human on a model or diagram.
SC.912.L.14.24:	Identify the general parts of a synapse and describe the physiology of signal transmission across a synapse.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.44:	Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.
HE.912.B.3.4:	Justify when professional health services or providers may be required. **Clarifications:** Injury, depression, suicide, drug abuse, medical emergency, 911, child abuse, domestic and/or dating violence, and natural or man-made conditions.
HE.912.B.6.2:	Formulate a plan to attain a personal health goal that addresses strengths, needs, and risks. **Clarifications:** Weight management, comprehensive physical fitness, stress management, dating relationships, risky behaviors, and a wellness-program plan.
HE.912.B.6.3:	Implement strategies and monitor progress in achieving a personal health goal. **Clarifications:** Stress management, time out, using of a squeeze ball when frustrated, talking with a friend or professional, pacing yourself, setting realistic expectations, using rewards, getting support, and wellness promotion.
HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.
HE.912.P.8.1:	Demonstrate how to influence and support others in making positive health choices. **Clarifications:** Avoidance of underage drinking, prevention of driving under the influence, suicide prevention, promotion of healthy dating/personal relationships, responsible parenting, disease prevention, and promotion of first-aid training.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.910.L.3.6:	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
LAFS.910.RL.2.4:	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >
Abbreviated Title: PERS FIT TRAINER

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Elementary and Secondary Grades K-12)

Comprehensive Fitness (#1501390) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.4.1:	Design a personal fitness program. **Clarifications:** Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.3:	Identify strategies for setting goals when developing a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.910.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.

	d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501390

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness > **Abbreviated Title:** COMPRE FIT

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Power Weight Training 1 (#1501410) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.3:	Analyze the movement performance of self and others. **Clarifications:** Some examples are video analysis and checklist.
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.14:	Compare and contrast the skill-related components of fitness used in various physical activities. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.3:	Identify strategies for setting goals when developing a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★

MAFS.912.S-ID.1.2:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1501410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >
Abbreviated Title: POWER WEIGHT TRAIN 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

International Baccalaureate Mid Yrs Prog Personal Fitness (#1501810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1501810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: IB MYP PERS FIT

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Gymnastics 1 (#1502300) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.18:	Demonstrate a variety of gymnastics skills with a level of control.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.20:	Perform complex combinations and sequences demonstrating smooth transitions while alone, with a partner or in a small group.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.1:	Describe ways to act independently of peer pressure during physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: GYMNASTICS 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Gymnastics 2 (#1502310) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.19:	Choreograph complex sequences individually, with a partner or in a small group.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.18:	Demonstrate a variety of gymnastics skills with a level of control.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.20:	Perform complex combinations and sequences demonstrating smooth transitions while alone, with a partner or in a small group.
PE.912.M.1.21:	Demonstrate the relationship between complex dance elements and rhythmic movements related to educational gymnastics skills and sequences.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: GYMNASTICS 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Paddleball/Racquetball/Handball (#1502400) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.22:	Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: PADB RACQB HANDBALL

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Individual and Dual Sports 1 (#1502410) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: INDIV/DUAL SPRTS 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Individual and Dual Sports 2 (#1502420) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.22:	Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** INDIV/DUAL SPRTS 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Individual and Dual Sports 3 (#1502430) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.20:	Perform complex combinations and sequences demonstrating smooth transitions while alone, with a partner or in a small group.
PE.912.M.1.22:	Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:**

	In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502430

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** INDIV/DUAL SPRTS 3

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Self Defense Activities (#1502460) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.20:	Perform complex combinations and sequences demonstrating smooth transitions while alone, with a partner or in a small group.
PE.912.M.1.29:	Demonstrate proficiency in self-defense movement skills.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.R.5.1:	Describe ways to act independently of peer pressure during physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
LAFS.910.L.3.6:	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502460

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** SELF DEFENSE

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Recreational Activities (#1502470) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.M.1.1:	Demonstrate critical elements of basic skills relating to aquatics. **Clarifications:** Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.
PE.912.M.1.9:	Demonstrate complex skills and advanced rhythmic movements in dance. **Clarifications:** Some examples are line, hip-hop, country and folk.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.28:	Apply strategies and tactics in a variety of outdoor pursuits.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1502470

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** REC

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Outdoor Education (#1502480) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.11:	Demonstrate competency in two or more extreme sports activities.
PE.912.M.1.27:	Demonstrate proficiency in a variety of outdoor pursuit activities.
PE.912.M.1.28:	Apply strategies and tactics in a variety of outdoor pursuits.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.1:	Describe ways to act independently of peer pressure during physical activities.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 1502480

Number of Credits: Half credit (.5)

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: OUTDOOR ED

Course Length: Semester (S)

Course Level: 2

Care and Prevention of Athletic Injuries (#1502490) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.8:	Differentiate between the three different types of heat illnesses associated with fluid loss. **Clarifications:** The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.11:	Explain how each of the health-related components of fitness are improved through the application of training principles. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.6:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.17:	Demonstrate basic cardiopulmonary resuscitation (CPR) procedures.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.910.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical; advocate, advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★

MAFS.912.S-ID.1.2:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-MD.2.7:	Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field (any coverage, degreed or non-degreed) with Athletic Trainer licensure.

OR

Licensed Athletic Trainer.

GENERAL INFORMATION

Course Number: 1502490

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** CARE/PREV OF ATH INJ

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Health (Elementary and Secondary Grades K-12)
Health Education (Secondary Grades 7-12)
Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Sports Officiating (#1502500) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.1:	Describe ways to act independently of peer pressure during physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 1502500

Number of Credits: Half credit (.5)

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: SPRTS OFFICIATING

Course Length: Semester (S)

Course Level: 2

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Track and Field (#1503300) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:**

	In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team >

Abbreviated Title: TRACK & FIELD

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Basketball (#1503310) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the

	characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team > **Abbreviated Title:** BASKETBALL

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Basketball 2 (#1503315) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
MAFS.912.A-REI.4.10:	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively

incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

General Course Information and Notes

VERSION DESCRIPTION

The purpose of this course is to provide more in-depth instruction of the fundamental skills, tactics, rules and etiquette in basketball. Introduction to systems of play will be included to enhance the student's understanding. Advanced skills and drills which directly affect student's physical and cognitive abilities will be covered. Students will participate in advanced individual and team techniques in relationship to basketball strategy. Participate in course activities will continue to enhance healthy behaviors that influence students to participate in physical activities throughout their life.

Content could include but not be limited to:

- fundamental basketball skills (passing, dribbling, shooting, rebounding, and defense).
- instruction in principles of motion
- basketball history
- rules and terminology
- offensive strategies (motion offense, spacing, screening, pick and roll)
- man-to-man defense (positioning, fighting screens, taking charges, help)
- zone defenses (1-2-2, 2-1-2, 2-3, Box and 1, Diamond and 1)
- using data and statistical analysis to enhance game play

GENERAL NOTES

Fitness concepts, as they relate to basketball, will continue to be taught as part of the overall physical education curriculum. Florida Standards for English/Language Arts and Mathematics standards have been aligned to this course. Literacy standards and mathematical practices will be integrated where appropriate.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

Students enrolled in this course should have successfully completed Basketball 1. These requirements include, but are not limited to, the benchmarks that are most relevant to this course. Appropriate ELA and Mathematics standards are also included to ensure a comprehensive educational experience.

GENERAL INFORMATION

Course Number: 1503315

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team >

Abbreviated Title: BASKETBALL 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)

Physical Education (Elementary and Secondary Grades K-12)

Soccer (#1503320) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team > **Abbreviated Title:** SOCCER

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Softball (#1503330) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team >

Abbreviated Title: SOFTBALL

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Team Sports 1 (#1503350) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

VERSION DESCRIPTION

The purpose of this course is to develop the physical skills necessary to be competent in many forms of movement, knowledge of team sports concepts such as offensive and defensive strategies and tactics, and appropriate social behaviors within a team or group setting. The integration of fitness concepts throughout the content is critical to the

success of this course.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team > **Abbreviated Title:** TEAM SPRTS 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Team Sports 2 (#1503360) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

VERSION DESCRIPTION

The purpose of this course is to develop the physical skills necessary to be competent in many forms of movement, knowledge of team sports concepts such as offensive and defensive strategies and tactics, and appropriate social behaviors within a team or group setting. The integration of fitness concepts throughout the content is critical to the success of this course.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team >
Abbreviated Title: TEAM SPRTS 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Aerobics 1 (#1503400) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.2:	Apply terminology and etiquette in dance.
PE.912.C.2.5:	Analyze the relationship between music and dance.
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.8:	Design and perform a creative movement sequence while working with a small or large group, with or without equipment/props.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: AEROBICS 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Aerobics 2 (#1503410) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.12:	Compare and contrast aerobic versus anaerobic activities.
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.19:	Choreograph complex sequences individually, with a partner or in a small group.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.6:	Select appropriate music for dance forms and choreograph dance movements to music.
PE.912.M.1.7:	Perform advanced dance sequences from a variety of dances accurately. **Clarifications:** Some examples of dances are hip-hop, social, step and line.
PE.912.M.1.8:	Design and perform a creative movement sequence while working with a small or large group, with or without equipment/props.
PE.912.M.1.9:	Demonstrate complex skills and advanced rhythmic movements in dance. **Clarifications:** Some examples are line, hip-hop, country and folk.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the

	characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: AEROBICS 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Aerobics 3 (#1503420) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.12:	Compare and contrast aerobic versus anaerobic activities.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.19:	Choreograph complex sequences individually, with a partner or in a small group.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.6:	Select appropriate music for dance forms and choreograph dance movements to music.
PE.912.M.1.7:	Perform advanced dance sequences from a variety of dances accurately. **Clarifications:** Some examples of dances are hip-hop, social, step and line.
PE.912.M.1.8:	Design and perform a creative movement sequence while working with a small or large group, with or without equipment/props.
PE.912.M.1.9:	Demonstrate complex skills and advanced rhythmic movements in dance. **Clarifications:** Some examples are line, hip-hop, country and folk.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
MAFS.912.A-REI.4.10:	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1503420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Fitness >

Abbreviated Title: AEROBICS 3

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Golf 1 (#1504400) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area

concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1504400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: GOLF 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Swimming 1 (#1504460) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.1:	Demonstrate critical elements of basic skills relating to aquatics. **Clarifications:** Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.
PE.912.M.1.2:	Demonstrate proficiency in combination of motor skills related to aquatics. **Clarifications:** Some examples are rhythmic breathing, coordinated movements with arms and legs and body alignment while entering water.
PE.912.M.1.3:	Perform a basic water rescue, with or without equipment, without entering the water.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

American Red Cross Water Safety Instructor or equivalent.

GENERAL INFORMATION

Course Number: 1504460

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: SWIMMING 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Swimming 2 (#1504470) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.1:	Identify and describe the critical elements of a basic water rescue.
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.1:	Demonstrate critical elements of basic skills relating to aquatics. **Clarifications:** Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.
PE.912.M.1.2:	Demonstrate proficiency in combination of motor skills related to aquatics. **Clarifications:** Some examples are rhythmic breathing, coordinated movements with arms and legs and body alignment while entering water.
PE.912.M.1.3:	Perform a basic water rescue, with or without equipment, without entering the water.
PE.912.M.1.4:	Perform refinement of one or more swim strokes to enhance efficiency, power and cardiorespiratory endurance in a variety of aquatics settings. **Clarifications:** Some examples of aquatic settings are a pool, a lake and open water.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

American Red Cross Water Safety Instructor or equivalent.

GENERAL INFORMATION

Course Number: 1504470

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** SWIMMING 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Water Safety (#1504490) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.8:	Differentiate between the three different types of heat illnesses associated with fluid loss. **Clarifications:** The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.1:	Demonstrate critical elements of basic skills relating to aquatics. **Clarifications:** Some examples are use of swim strokes, use of mask and fins and use of emergency safety equipment.
PE.912.M.1.2:	Demonstrate proficiency in combination of motor skills related to aquatics. **Clarifications:** Some examples are rhythmic breathing, coordinated movements with arms and legs and body alignment while entering water.
PE.912.M.1.3:	Perform a basic water rescue, with or without equipment, without entering the water.
PE.912.M.1.4:	Perform refinement of one or more swim strokes to enhance efficiency, power and cardiorespiratory endurance in a variety of aquatics settings. **Clarifications:** Some examples of aquatic settings are a pool, a lake and open water.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.17:	Demonstrate basic cardiopulmonary resuscitation (CPR) procedures.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.1:	Describe ways to act independently of peer pressure during physical activities.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

American Red Cross Water Safety Instructor or equivalent.

GENERAL INFORMATION

Course Number: 1504490

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** WATER SAFETY

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Tennis 1 (#1504500) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1504500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: TENNIS 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Tennis 2 (#1504510) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.22:	Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1504510

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** TENNIS 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Tennis 3 (#1504520) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.22:	Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1504520

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual > **Abbreviated Title:** TENNIS 3

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Racquetball 1 (#1505430) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1505430

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: RACQUETBALL 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Racquetball 2 (#1505440) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.22:	Demonstrate proficiency in advanced combinations of motor skills for a variety of individual and dual sports.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.24:	Apply a combination of complex movement patterns in a game setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area

concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1505440

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: RACQUETBALL 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Volleyball 1 (#1505500) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1505500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team >

Abbreviated Title: VOLLEYBALL 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Volleyball 2 (#1505510) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1505510

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team >

Abbreviated Title: VOLLEYBALL 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Volleyball 3 (#1505520) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.10:	Apply sport specific skills in simulation and in real-life applications. **Clarifications:** An example of a simulation is a practice setting or lead up activity. An example of a real-life application is a game or performance setting.
PE.912.M.1.23:	Demonstrate proficiency of critical elements when striking with objects, implements or body parts.
PE.912.M.1.25:	Apply appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.30:	Combine and apply movement patterns from simple to complex.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1505520

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Team >

Abbreviated Title: VOLLEYBALL 3

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Wrestling 1 (#1505550) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.31:	Demonstrate advanced offensive, defensive and transition strategies and tactics.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1505550

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: WRESTLING 1

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Wrestling 2 (#1505560) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.21:	Diagram, explain and justify the use of advanced offensive, defensive and transition strategies and tactics.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.24:	Analyze the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.C.2.26:	Evaluate skill patterns of self and/or partner by detecting and correcting mechanical errors.
PE.912.C.2.28:	Interpret and apply the rules associated with specific course activities.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.M.1.5:	Apply strategies for self improvement based on individual strengths and needs.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.26:	Analyze and apply offensive, defensive and transition strategies and tactics to reflect a higher order of thinking. **Clarifications:** An example is placing a shot in an open area away from opponent.
PE.912.M.1.32:	Apply sport specific skills in a variety of game settings.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
MAFS.912.A-REI.4.10:	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional

purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1505560

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Individual and Dual >

Abbreviated Title: WRESTLING 2

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

HOPE-Physical Education Variation (#1506320) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.6:	Compare and contrast the health-related benefits of various physical activities.
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.8:	Differentiate between the three different types of heat illnesses associated with fluid loss. **Clarifications:** The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.11:	Explain how each of the health-related components of fitness are improved through the application of training principles. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.C.2.12:	Compare and contrast aerobic versus anaerobic activities.
PE.912.C.2.13:	Document food intake, calories consumed and energy expended through physical activity and analyze the results.
PE.912.C.2.14:	Compare and contrast the skill-related components of fitness used in various physical activities. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.18:	Differentiate between fact and fallacy as it relates to consumer physical fitness products and programs. **Clarifications:** Some examples are weight-loss pills, food labels and exercise equipment.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.1:	Design a personal fitness program. **Clarifications:** Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.3:	Identify strategies for setting goals when developing a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.

PE.912.L.4.6:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
HE.912.C.1.2:	Interpret the significance of interrelationships in mental/emotional, physical, and social health. **Clarifications:** Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.
HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
HE.912.C.1.8:	Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. **Clarifications:** Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.
HE.912.C.2.1:	Analyze how the family influences the health of individuals. **Clarifications:** Nutritional management of meals, composition of and relationships within families, and health-insurance status.
HE.912.C.2.2:	Compare how peers influence healthy and unhealthy behaviors. **Clarifications:** Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.
HE.912.C.2.3:	Assess how the school and community can affect personal health practice and behaviors. **Clarifications:** Healthier foods, required health education, health screenings, and enforcement of "no tolerance" policies related to all forms of violence, and AED availability and training.
	Evaluate how public health policies and government regulations can influence health promotion and disease prevention.

HE.912.C.2.4:	**Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.
HE.912.C.2.5:	Evaluate the effect of media on personal and family health. **Clarifications:** Compares brand-name/store-brand items in home, analyzes television viewing habits, identifies effective PSAs, consumer skills, advertisements of health-related community resources, participation in risky behaviors, and deconstructs media to identify promotion of unhealthy stereotypes, and normalization of violence.
HE.912.C.2.6:	Evaluate the impact of technology on personal, family, and community health. **Clarifications:** Automated external defibrillator in the community, pedestrian crosswalks with audible directions, type of information requested from local 211/hotlines or websites, consumer websites, Internet safety, and disease prevention and control.
HE.912.C.2.7:	Analyze how culture supports and challenges health beliefs, practices, and behaviors. **Clarifications:** Various cultures' dietary patterns, rites of passage, courtship practices, family roles, personal relationships, ethics, and parenting.
HE.912.C.2.8:	Analyze how the perceptions of norms influence healthy and unhealthy behaviors. **Clarifications:** Driving over the speed limit, teen parenting, binge drinking, relationships, parenting, health information, environmental practices, and media messages.
HE.912.C.2.9:	Evaluate the influence of personal values, attitudes, and beliefs about individual health practices and behaviors. **Clarifications:** Social conformity, self-discipline, and impulse vs. delayed gratification.
HE.912.P.7.1:	Analyze the role of individual responsibility in enhancing health. **Clarifications:** Food choices, media messages, future impact of lifestyle choices, individual responsibility for health protection, and stress management.
HE.912.P.7.2:	Evaluate healthy practices and behaviors that will maintain or improve health and reduce health risks. **Clarifications:** Lifestyle choices: drug use/abuse, healthy diet, controlling modes of transmission of infectious agents, riding with impaired drivers, seeking mental-health services when needed, sexual behavior, and engaging in healthy relationships.
HE.912.P.8.1:	Demonstrate how to influence and support others in making positive health choices. **Clarifications:** Avoidance of underage drinking, prevention of driving under the influence, suicide prevention, promotion of healthy dating/personal relationships, responsible parenting, disease prevention, and promotion of first-aid training.
HE.912.P.8.3:	Work cooperatively as an advocate for improving personal, family, and community health. **Clarifications:** Support local availability of healthy food options; environmentally friendly shopping; victim, drug or teen court advocacy; advocate for peer-led abuse-prevention education programs, community resource information; and home/school safety.
LAFS.910.L.3.6:	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
LAFS.910.RL.2.4:	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

VERSION DESCRIPTION

The purpose of this course is to develop and enhance healthy behaviors that influence lifestyle choices and student health and fitness. Students will combine the learning of principles and background information in a classroom setting with physical application of the knowledge. A majority of class time should be spent in physical activity.

In addition to the physical education content represented in the benchmarks below, specific health education topics within this course include, but are not limited to:

Mental/Social Health
Physical Activity
Components of Physical Fitness
Nutrition and Wellness Planning
Diseases and Disorders
Health Advocacy

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 1506320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Wellness Education >
Abbreviated Title: HOPE-PE V

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

M/J Fitness - Grade 6 (#1508000) 2015 - 2022 (current)

Course Standards

Name	Description
PE.6.C.2.1:	Identify at least two movements or activities which will lead to improvement in each of the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.C.2.2:	List safety procedures that should be followed when engaging in activities to improve the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.C.2.3:	Describe how each of the health-related components of fitness are improved through the application of training principles. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.C.2.4:	Describe the long-term benefits of regular physical activity. **Clarifications:** Some examples of types of long-term benefits are physical, cognitive and emotional.
PE.6.C.2.5:	Describe the training principles of overload, progression and specificity.
PE.6.C.2.6:	Classify activities as aerobic or anaerobic.
PE.6.C.2.7:	Determine personal target heart-rate zone and explain how to adjust intensity level to stay within the desired range.
PE.6.C.2.8:	List methods of monitoring intensity level during aerobic activity. **Clarifications:** Some examples of monitoring intensity levels are a talk test, rate of perceived exertion and taking one's heart rate/pulse.
PE.6.C.2.9:	Explain the effects of physical activity on heart rate during exercise, recovery phase and while the body is at rest.
PE.6.C.2.10:	Recognize the difference between fact and fallacy as it relates to consumer physical fitness products and programs. **Clarifications:** Some examples of these are weight- loss pills, food labels and exercise equipment.
PE.6.C.2.11:	Prepare a log noting the food intake, calories consumed and energy expended through physical activity and describe results.
PE.6.C.2.12:	List the components of skill-related fitness. **Clarifications:** The components of skill-related fitness are speed, coordination, balance, power, agility and reaction time.
PE.6.C.2.13:	List appropriate warm-up and cool-down techniques and the reasons for using them.
PE.6.C.2.22:	List the three different types of heat illnesses associated with fluid loss. **Clarifications:** The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.
PE.6.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.6.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.6.L.3.3:	Participate in a variety of fitness, wellness, gymnastics and dance activities that promote the components of health-related fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.L.3.6:	Identify a variety of fitness, wellness, gymnastics and dance activities that promote stress management.
PE.6.L.4.1:	Create, implement and assess a personal fitness program in collaboration with a teacher.
PE.6.L.4.2:	Develop goals and strategies for a personal physical fitness program.
PE.6.L.4.3:	Use available technology to assess, design and evaluate a personal physical-activity plan.
PE.6.L.4.4:	Develop a personal fitness program including a variety of physical activities.
PE.6.L.4.5:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.M.1.1:	Demonstrate movements designed to improve and maintain cardiorespiratory endurance, muscular strength and endurance, flexibility and proper body composition.
PE.6.M.1.2:	Perform at least three different activities that achieve target heart rate.
PE.6.M.1.3:	Demonstrate the principles of training (overload, specificity and progression) and conditioning (frequency, intensity, time and type) for specific physical activities.
PE.6.M.1.5:	Perform movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.
PE.6.M.1.11:	Apply proper warm-up and cool-down techniques.
PE.6.M.1.12:	Use proper safety practices. **Clarifications:** Some examples of safety practices are the use of sun screen, hydration, selection of clothing and correct biomechanics.

PE.6.R.5.1:	List ways that peer pressure can be positive and negative.
PE.6.R.5.2:	Demonstrate acceptance and respect for persons of diverse backgrounds and abilities in physical-activity settings.
PE.6.R.5.3:	Demonstrate responsible behaviors during physical activities. **Clarifications:** Some examples of responsible behaviors are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.6.R.5.4:	Describe the personal, social and ethical behaviors that apply to specific physical activities.
PE.6.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.6.R.6.1:	Identify an opportunity for participation in a physical activity outside of the school setting that contributes to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.6.R.6.2:	Identify the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits of participation are physical, mental, emotional and social.
HE.6.B.3.1:	Examine the validity of health information, and determine the cost of health products, and services. **Clarifications:** Advertisements, Internet, infomercials, articles, flyers, diet supplements, generic vs. name brand, individual fitness plan vs. gym membership, and private lessons vs. recreational play.
HE.6.B.6.1:	Use various methods to measure personal health status. **Clarifications:** BMI, surveys, heart-rate monitors, pedometer, blood-pressure cuff, and stress-management techniques.
HE.6.P.7.1:	Explain the importance of assuming responsibility for personal-health behaviors. **Clarifications:** Medical/dental checkups, resisting peer pressure, and healthy relationships.
LAFS.6.L.3.6:	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.6.RP.1.1:	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*

General Course Information and Notes

VERSION DESCRIPTION

This fitness course is designed for 6th grade students and intended to be 18 weeks in length. The purpose of this course is to provide students with the knowledge, skills, and values they need to become healthy and physically active for a lifetime. This course addresses both the health and skill-related components of physical fitness which are critical for students' success.

GENERAL NOTES

Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

- Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
- Making close reading and rereading of texts central to lessons.
- Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
- Requiring students to support answers with evidence from the text.
- Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >

Abbreviated Title: M/J FITNESS GRADE 6

Course Length: Semester (S)

Course Type: Elective Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 6

M/J Education Gymanstics/Educational Dance - Grade 6 (#1508010) 2019 - 2022 (current)

Course Standards

Name	Description
PE.6.C.2.12:	List the components of skill-related fitness. **Clarifications:** The components of skill-related fitness are speed, coordination, balance, power, agility and reaction time.
PE.6.C.2.13:	List appropriate warm-up and cool-down techniques and the reasons for using them.
PE.6.C.2.14:	List terminology and etiquette in educational gymnastics or dance.
PE.6.C.2.15:	Choreograph basic dance or gymnastic sequences alone, with a partner or in a small group.
PE.6.C.2.16:	Evaluate the movement performance of others.
PE.6.C.2.17:	Describe the mechanical principles of balance, force and leverage and how they relate to the performance of skills in gymnastics or dance.
PE.6.C.2.18:	List and describe the risks and safety procedures in gymnastics and dance.
PE.6.C.2.19:	Recognize the relationship between music and dance or gymnastics skills.
PE.6.C.2.20:	Know how improvisation is used to create movements for choreography.
PE.6.C.2.21:	Identify the precautions to be taken when exercising in extreme weather and/or environmental conditions.
PE.6.L.3.3:	Participate in a variety of fitness, wellness, gymnastics and dance activities that promote the components of health-related fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.L.3.4:	Identify the in-school opportunities for physical activity that promote fitness, wellness, gymnastics and dance.
PE.6.L.3.5:	Identify the community opportunities for physical activity that promote fitness, wellness, gymnastics and dance.
PE.6.L.3.6:	Identify a variety of fitness, wellness, gymnastics and dance activities that promote stress management.
PE.6.M.1.5:	Perform movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.
PE.6.M.1.6:	Design and perform smooth, flowing sequences of stunts, tumbling and rhythmic patterns that combine traveling, rolling, balancing and transfer of weight.
PE.6.M.1.7:	Design and perform a routine to rhythm, with a partner or a group, while incorporating gymnastic actions and various forms of locomotion on small and/or large apparatus. **Clarifications:** Some examples of gymnastics actions are rolling, balancing and step like actions. Some examples of apparatus are wedge mats, cylinders and balance beams.
PE.6.M.1.8:	Perform complex dance sequences from a variety of dances accurately and with correct technique. **Clarifications:** Some examples of dances are folk, square, step and line.
PE.6.M.1.9:	Create and perform a rhythmic movement sequence while working with a partner or group.
PE.6.M.1.10:	Design and perform different group dance and rhythm sequences that incorporate equipment.
PE.6.M.1.11:	Apply proper warm-up and cool-down techniques.
PE.6.M.1.12:	Use proper safety practices. **Clarifications:** Some examples of safety practices are the use of sun screen, hydration, selection of clothing and correct biomechanics.
PE.6.M.1.13:	Use technology to assess, enhance and maintain motor skill performance. **Clarifications:** Some examples of technology are Excel spreadsheets or web-based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.6.R.5.1:	List ways that peer pressure can be positive and negative.
PE.6.R.5.2:	Demonstrate acceptance and respect for persons of diverse backgrounds and abilities in physical-activity settings.
PE.6.R.5.3:	Demonstrate responsible behaviors during physical activities. **Clarifications:** Some examples of responsible behaviors are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.6.R.5.4:	Describe the personal, social and ethical behaviors that apply to specific physical activities.
PE.6.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.6.R.6.1:	Identify an opportunity for participation in a physical activity outside of the school setting that contributes to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.6.R.6.2:	Identify the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits of participation are physical, mental, emotional and social.
PE.6.R.6.3:	Participate in games, sports and/or physical activities from other cultures.

LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.K12.L.3.6:	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.6.C.2.7:	Investigate cultural changes related to health beliefs and behaviors. **Clarifications:** School breakfast programs, fast- food menus, and nutritional guidelines for snack machines, fitness programs, and school wellness programs.
MAFS.6.RP.1.1:	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*

General Course Information and Notes

VERSION DESCRIPTION

This course is designed for 6th grade students and intended to be 18 weeks in length. The purpose of this course is to provide students with the knowledge, skills, and values necessary to design and perform educational gymnastics and dance sequences in a variety of settings. "Educational" gymnastics is intended to have an emphasis on body awareness, body management, maximum participation, high success rates, and open-ended responses from students. Integrating fitness throughout the content is critical to the success of the course.

GENERAL NOTES

Special Notes: Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J EDUC GYM/DNC 6
Course Length: Semester (S)
Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Team Sports - Grade 7 (#1508020) 2019 - 2022 (current)

Course Standards

Name	Description
PE.7.C.2.1:	Identify the basic rules for team sports. **Clarifications:** Some examples are setting up to start, violating rules and keeping accurate score.
PE.7.C.2.3:	Explain basic offensive and defensive strategies in modified games or activities and team sports.
PE.7.C.2.6:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.7.C.2.7:	Identify the critical elements for successful performance of a variety of sport skills.
PE.7.C.2.8:	List specific safety procedures and equipment necessary for a variety of sport skills and physical activities.
PE.7.C.2.9:	Describe how movement skills learned in one physical activity can be transferred and used in other physical activities. **Clarifications:** An example is slow-pitch softball and volleyball underhand serve.
PE.7.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.7.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.7.L.3.3:	Participate in a variety of team sports, outdoor pursuits and aquatics activities that promote health-related physical fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.7.L.3.4:	Identify the in-school opportunities for participation in team sports, outdoor pursuits and aquatics activities.
PE.7.L.3.5:	Identify the community opportunities that promote team sports, outdoor pursuits and aquatics activities.
PE.7.L.3.6:	Identify a variety of team sports, outdoor pursuits and aquatics activities that promote stress management.
PE.7.M.1.1:	Participate in modified versions of team sports demonstrating mature patterns while using a variety of manipulative skills. **Clarifications:** Some examples of manipulative skills are throwing, catching, kicking, punting, trapping, dribbling, volleying and striking.
PE.7.M.1.2:	Use basic offensive and defensive strategies while playing modified versions of a variety of sports and activities. **Clarifications:** An example of a modified version of a sport or activity is a small sided game.
PE.7.M.1.3:	Demonstrate appropriate relationships between the body and an opponent in dynamic game situations. **Clarifications:** Some examples are staying between opponent and goal and moving between opponent and the ball.
PE.7.M.1.6:	Demonstrate the critical elements in specialized skills related to a variety of team sports or outdoor pursuits activities. **Clarifications:** Some examples are overhand throw for distance/force, forearm passing in volleyball, steering a canoe, batting and the correct stance in archery.
PE.7.M.1.7:	Utilize proper equipment and implement appropriate safety procedures for participation in a variety of sports or activities.
PE.7.M.1.8:	Apply technology to evaluate, monitor and improve individual skill performance. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes and digital cameras.
PE.7.M.1.9:	Demonstrate principles of biomechanics necessary for safe and successful performance.
PE.7.R.5.1:	Identify situations in which peer pressure could negatively impact one's own behavior choices.
PE.7.R.5.2:	Demonstrate acceptance and respect for persons of diverse backgrounds and abilities in physical-activity settings.
PE.7.R.5.3:	Demonstrate responsible behaviors during physical activities. **Clarifications:** Some examples of responsible behaviors are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.7.R.5.4:	List examples of appropriate personal, social and ethical behaviors that apply to specific physical activities.
PE.7.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.7.R.6.1:	Identify an opportunity for participation in a physical activity outside of the school setting that contributes to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.7.R.6.2:	Discuss the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.7.R.6.3:	Participate in games, sports and/or physical activities from other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.7.C.2.6:	Evaluate the influence of technology in locating valid health information. **Clarifications:** Specific health sites to acquire valid health information: CDC, NIH, NIDA, and local health organizations; and Internet and cell phone apps.

LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

General Course Information and Notes

VERSION DESCRIPTION

This course is designed for 7th grade students and is intended to be 18 weeks in length. The purpose of this course is to develop the physical skills necessary to be competent in many forms of movement, knowledge of team sports concepts such as offensive and defensive strategies and tactics, and appropriate social behaviors within a team or group setting. The integration of fitness concepts throughout the content is critical to the success of this course.

GENERAL NOTES

Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

- Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
- Making close reading and rereading of texts central to lessons.
- Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
- Requiring students to support answers with evidence from the text.
- Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J TEAM SPORTS GRD7
Course Length: Semester (S)
Course Level: 2

Course Status: Draft - Course Pending Approval

M/J Outdoor Pursuits/Aquatics - Grade 7 (#1508030) 2019 - 2022 (current)

Course Standards

Name	Description
PE.7.C.2.2:	Identify the basic rules for outdoor pursuits/aquatics. **Clarifications:** Some examples are setting up to start, violating rules and keeping accurate score.
PE.7.C.2.4:	Explain basic offensive and defensive strategies in modified games or activities and outdoor pursuits/aquatics.
PE.7.C.2.5:	Identify and explain different types of safety equipment and practices relating to water activities.
PE.7.C.2.6:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.7.C.2.7:	Identify the critical elements for successful performance of a variety of sport skills.
PE.7.C.2.8:	List specific safety procedures and equipment necessary for a variety of sport skills and physical activities.
PE.7.C.2.9:	Describe how movement skills learned in one physical activity can be transferred and used in other physical activities. **Clarifications:** An example is slow-pitch softball and volleyball underhand serve.
PE.7.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.7.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.7.L.3.3:	Participate in a variety of team sports, outdoor pursuits and aquatics activities that promote health-related physical fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.7.L.3.4:	Identify the in-school opportunities for participation in team sports, outdoor pursuits and aquatics activities.
PE.7.L.3.5:	Identify the community opportunities that promote team sports, outdoor pursuits and aquatics activities.
PE.7.L.3.6:	Identify a variety of team sports, outdoor pursuits and aquatics activities that promote stress management.
PE.7.M.1.2:	Use basic offensive and defensive strategies while playing modified versions of a variety of sports and activities. **Clarifications:** An example of a modified version of a sport or activity is a small sided game.
PE.7.M.1.3:	Demonstrate appropriate relationships between the body and an opponent in dynamic game situations. **Clarifications:** Some examples are staying between opponent and goal and moving between opponent and the ball.
PE.7.M.1.4:	Demonstrate introductory outdoor pursuits skills. **Clarifications:** Some examples of outdoor pursuits are archery, backpacking, orienteering, hiking, canoeing, fishing and ropes courses.
PE.7.M.1.5:	Perform aquatics activities to improve or maintain health-related fitness. **Clarifications:** Some examples of aquatic activities are water aerobics, water polo and survival swimming.
PE.7.M.1.6:	Demonstrate the critical elements in specialized skills related to a variety of team sports or outdoor pursuits activities. **Clarifications:** Some examples are overhand throw for distance/force, forearm passing in volleyball, steering a canoe, batting and the correct stance in archery.
PE.7.M.1.7:	Utilize proper equipment and implement appropriate safety procedures for participation in a variety of sports or activities.
PE.7.M.1.8:	Apply technology to evaluate, monitor and improve individual skill performance. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes and digital cameras.
PE.7.M.1.9:	Demonstrate principles of biomechanics necessary for safe and successful performance.
PE.7.R.5.1:	Identify situations in which peer pressure could negatively impact one's own behavior choices.
PE.7.R.5.2:	Demonstrate acceptance and respect for persons of diverse backgrounds and abilities in physical-activity settings.
PE.7.R.5.3:	Demonstrate responsible behaviors during physical activities. **Clarifications:** Some examples of responsible behaviors are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.7.R.5.4:	List examples of appropriate personal, social and ethical behaviors that apply to specific physical activities.
PE.7.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.7.R.6.1:	Identify an opportunity for participation in a physical activity outside of the school setting that contributes to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.7.R.6.2:	Discuss the potential benefits of participation in a variety of physical activities. **Clarifications:**

	Some examples of potential benefits are physical, mental, emotional and social.
PE.7.R.6.3:	Participate in games, sports and/or physical activities from other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.7.C.1.8:	Explain the likelihood of injury or illness if engaging in unhealthy/risky behaviors. **Clarifications:** Abuse of over-the-counter medications, sexually transmitted diseases and sexually transmitted infections from sexual relationships, injury, or death from unsupervised handling of firearms, and physical/emotional injury, or impact from abusive dating partner.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

General Course Information and Notes

VERSION DESCRIPTION

This course is designed for 7th grade students and is intended to be 18 weeks in length. The purpose of this course is to provide the skills, knowledge, and motivation necessary for participation in non-traditional forms of physical activity. The integration of fitness concepts throughout the content is critical to student success in this course and in the development of a physically active lifestyle.

GENERAL NOTES

Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

- Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
- Making close reading and rereading of texts central to lessons.
- Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
- Requiring students to support answers with evidence from the text.
- Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J OUTDR PRSTS GRD7
Course Length: Semester (S)
Course Level: 2

Course Status: Draft - Course Pending Approval

M/J Extreme/Alternative Sports - Grade 8 (#1508040) 2019

- 2022 (current)

Course Standards

Name	Description
PE.8.C.2.2:	Identify basic rules for alternative/extreme sports activities. **Clarifications:** Some examples are setting up to start, violating rules and keeping accurate score.
PE.8.C.2.3:	Explain basic offensive and defensive strategies in individual/dual sports.
PE.8.C.2.5:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.8.C.2.6:	Identify the critical elements for successful performance in a variety of sport skills or physical activities.
PE.8.C.2.7:	List specific safety procedures and equipment necessary for a variety of sport skills and physical activities.
PE.8.C.2.8:	Describe how movement skills and strategies learned in one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve and surfing and skate boarding.
PE.8.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.8.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.8.L.3.3:	Participate in a variety of individual/dual and alternative/extreme sport activities that promote health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.8.L.3.4:	Identify the in-school opportunities for participation in individual/dual and alternative/extreme sports.
PE.8.L.3.5:	Identify the community opportunities for participation in individual/dual and alternative/extreme sports.
PE.8.L.3.6:	Identify a variety of individual/dual and alternative/extreme sport activities that promote stress management.
PE.8.L.4.3:	Use available technology to assess, design and evaluate a personal physical fitness program.
PE.8.M.1.1:	Demonstrate competency in motor skills for a variety of individual/dual and extreme/alternative sports.
PE.8.M.1.2:	Demonstrate critical elements when striking with an object or implement.
PE.8.M.1.3:	Demonstrate body management for successful participation in a variety of modified games and activities. **Clarifications:** Some examples of body management are balance and agility.
PE.8.M.1.4:	Apply principles of biomechanics necessary for safe and successful performance.
PE.8.M.1.5:	Demonstrate appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.8.M.1.6:	Demonstrate offensive, defensive and transition strategies and tactics.
PE.8.M.1.7:	Apply skill-related components of balance, reaction time, agility, coordination, power and speed to enhance performance levels.
PE.8.M.1.8:	Apply technology to evaluate, monitor and improve individual motor skills. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes and digital cameras.
PE.8.M.1.9:	Select and utilize appropriate safety equipment.
PE.8.R.5.1:	List ways to act independently of peer pressure during physical activities.
PE.8.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.8.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.8.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials and accepting both victory and defeat.
PE.8.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.8.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.8.R.6.2:	Describe the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.8.R.6.3:	Compare and contrast games, sports and/or physical activities from other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.8.B.5.5:	Evaluate the outcomes of a health-related decision. **Clarifications:** Addiction from alcohol consumption, brain damage from inhalant use, pregnancy from sexual activity, and weight management from proper

	nutrition.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

General Course Information and Notes

VERSION DESCRIPTION

This course is designed for 8th grade students and is intended to be 18 weeks in length. The purpose of this course is to provide the skills, knowledge, and motivation necessary for participation in non-traditional forms of physical activity. The integration of fitness concepts throughout the content is critical to student success in this course and in the development of a healthy and physically active lifestyle.

GENERAL NOTES

Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General > **Abbreviated Title:** M/J EXTRME SPRTS GD8 **Course Length:** Semester (S) **Course Level:** 2

Course Status: Draft - Course Pending Approval

M/J Individual/Dual Sports - Grade 8 (#1508050) 2019 - 2022

(current)

Course Standards

Name	Description
PE.8.C.2.1:	Identify basic rules for individual/dual sports. **Clarifications:** Some examples are setting up to start, violating rules and keeping accurate score.
PE.8.C.2.3:	Explain basic offensive and defensive strategies in individual/dual sports.
PE.8.C.2.5:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.8.C.2.6:	Identify the critical elements for successful performance in a variety of sport skills or physical activities.
PE.8.C.2.7:	List specific safety procedures and equipment necessary for a variety of sport skills and physical activities.
PE.8.C.2.8:	Describe how movement skills and strategies learned in one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve and surfing and skate boarding.
PE.8.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.8.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.8.L.3.3:	Participate in a variety of individual/dual and alternative/extreme sport activities that promote health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.8.L.3.4:	Identify the in-school opportunities for participation in individual/dual and alternative/extreme sports.
PE.8.L.3.5:	Identify the community opportunities for participation in individual/dual and alternative/extreme sports.
PE.8.L.3.6:	Identify a variety of individual/dual and alternative/extreme sport activities that promote stress management.
PE.8.L.4.3:	Use available technology to assess, design and evaluate a personal physical fitness program.
PE.8.M.1.1:	Demonstrate competency in motor skills for a variety of individual/dual and extreme/alternative sports.
PE.8.M.1.2:	Demonstrate critical elements when striking with an object or implement.
PE.8.M.1.3:	Demonstrate body management for successful participation in a variety of modified games and activities. **Clarifications:** Some examples of body management are balance and agility.
PE.8.M.1.4:	Apply principles of biomechanics necessary for safe and successful performance.
PE.8.M.1.5:	Demonstrate appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.8.M.1.6:	Demonstrate offensive, defensive and transition strategies and tactics.
PE.8.M.1.7:	Apply skill-related components of balance, reaction time, agility, coordination, power and speed to enhance performance levels.
PE.8.M.1.8:	Apply technology to evaluate, monitor and improve individual motor skills. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes and digital cameras.
PE.8.M.1.9:	Select and utilize appropriate safety equipment.
PE.8.R.5.1:	List ways to act independently of peer pressure during physical activities.
PE.8.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.8.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.8.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials and accepting both victory and defeat.
PE.8.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.8.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.8.R.6.2:	Describe the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.8.R.6.3:	Compare and contrast games, sports and/or physical activities from other cultures.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.8.C.2.9:	Analyze the influence of personal values, attitudes, and beliefs about individual health practices and behaviors. **Clarifications:** Social conformity, desires, and impulses.

LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >

Abbreviated Title: M/J IND/DUAL SPT GD8

Course Length: Semester (S)

Course Level: 2

Course Status: Draft - Course Pending Approval

M/J Comprehensive Physical Education Grade 6/7 (#1508060) 2019 - 2022 (current)

Course Standards

Name	Description
PE.6.C.2.3:	Describe how each of the health-related components of fitness are improved through the application of training principles. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.C.2.4:	Describe the long-term benefits of regular physical activity. **Clarifications:** Some examples of types of long-term benefits are physical, cognitive and emotional.
PE.6.C.2.7:	Determine personal target heart-rate zone and explain how to adjust intensity level to stay within the desired range.
PE.6.C.2.11:	Prepare a log noting the food intake, calories consumed and energy expended through physical activity and describe results.
PE.6.C.2.12:	List the components of skill-related fitness. **Clarifications:** The components of skill-related fitness are speed, coordination, balance, power, agility and reaction time.
PE.6.C.2.13:	List appropriate warm-up and cool-down techniques and the reasons for using them.
PE.6.C.2.21:	Identify the precautions to be taken when exercising in extreme weather and/or environmental conditions.
PE.6.C.2.22:	List the three different types of heat illnesses associated with fluid loss. **Clarifications:** The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.
PE.6.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.6.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.6.L.3.3:	Participate in a variety of fitness, wellness, gymnastics and dance activities that promote the components of health-related fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.6.L.3.4:	Identify the in-school opportunities for physical activity that promote fitness, wellness, gymnastics and dance.
PE.6.L.3.5:	Identify the community opportunities for physical activity that promote fitness, wellness, gymnastics and dance.
PE.6.L.3.6:	Identify a variety of fitness, wellness, gymnastics and dance activities that promote stress management.
PE.6.L.4.1:	Create, implement and assess a personal fitness program in collaboration with a teacher.
PE.6.L.4.2:	Develop goals and strategies for a personal physical fitness program.
PE.6.L.4.3:	Use available technology to assess, design and evaluate a personal physical-activity plan.
PE.6.L.4.4:	Develop a personal fitness program including a variety of physical activities.
PE.6.M.1.1:	Demonstrate movements designed to improve and maintain cardiorespiratory endurance, muscular strength and endurance, flexibility and proper body composition.
PE.6.M.1.2:	Perform at least three different activities that achieve target heart rate.
PE.6.M.1.3:	Demonstrate the principles of training (overload, specificity and progression) and conditioning (frequency, intensity, time and type) for specific physical activities.
PE.6.M.1.4:	Perform at least three activities having value for cardiorespiratory fitness.
PE.6.M.1.5:	Perform movements using a variety of equipment which lead to improved or maintained muscular strength and endurance.
PE.6.M.1.6:	Design and perform smooth, flowing sequences of stunts, tumbling and rhythmic patterns that combine traveling, rolling, balancing and transfer of weight.
PE.6.M.1.7:	Design and perform a routine to rhythm, with a partner or a group, while incorporating gymnastic actions and various forms of locomotion on small and/or large apparatus. **Clarifications:** Some examples of gymnastics actions are rolling, balancing and step like actions. Some examples of apparatus are wedge mats, cylinders and balance beams.
PE.6.M.1.9:	Create and perform a rhythmic movement sequence while working with a partner or group.
PE.6.M.1.11:	Apply proper warm-up and cool-down techniques.
PE.6.M.1.12:	Use proper safety practices. **Clarifications:** Some examples of safety practices are the use of sun screen, hydration, selection of clothing and correct biomechanics.
PE.6.M.1.13:	Use technology to assess, enhance and maintain motor skill performance. **Clarifications:** Some examples of technology are Excel spreadsheets or web-based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.6.R.6.1:	Identify an opportunity for participation in a physical activity outside of the school setting that contributes to personal enjoyment and the attainment or maintenance of a healthy lifestyle.

PE.6.R.6.2:	Identify the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits of participation are physical, mental, emotional and social.
PE.6.R.6.3:	Participate in games, sports and/or physical activities from other cultures.
PE.7.C.2.1:	Identify the basic rules for team sports. **Clarifications:** Some examples are setting up to start, violating rules and keeping accurate score.
PE.7.C.2.3:	Explain basic offensive and defensive strategies in modified games or activities and team sports.
PE.7.C.2.6:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.7.C.2.8:	List specific safety procedures and equipment necessary for a variety of sport skills and physical activities.
PE.7.C.2.9:	Describe how movement skills learned in one physical activity can be transferred and used in other physical activities. **Clarifications:** An example is slow-pitch softball and volleyball underhand serve.
PE.7.M.1.1:	Participate in modified versions of team sports demonstrating mature patterns while using a variety of manipulative skills. **Clarifications:** Some examples of manipulative skills are throwing, catching, kicking, punting, trapping, dribbling, volleying and striking.
PE.7.M.1.2:	Use basic offensive and defensive strategies while playing modified versions of a variety of sports and activities. **Clarifications:** An example of a modified version of a sport or activity is a small sided game.
PE.7.M.1.4:	Demonstrate introductory outdoor pursuits skills. **Clarifications:** Some examples of outdoor pursuits are archery, backpacking, orienteering, hiking, canoeing, fishing and ropes courses.
PE.7.M.1.7:	Utilize proper equipment and implement appropriate safety procedures for participation in a variety of sports or activities.
PE.7.M.1.8:	Apply technology to evaluate, monitor and improve individual skill performance. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes and digital cameras.
PE.7.R.5.1:	Identify situations in which peer pressure could negatively impact one's own behavior choices.
PE.7.R.5.2:	Demonstrate acceptance and respect for persons of diverse backgrounds and abilities in physical-activity settings.
PE.7.R.5.3:	Demonstrate responsible behaviors during physical activities. **Clarifications:** Some examples of responsible behaviors are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
HE.7.B.6.3:	Explain strategies and skills needed to assess progress and maintenance of a personal health goal. **Clarifications:** Journaling, daily checklists, calorie counting, use of pedometers, participation in support groups, and rewarding milestones.
HE.7.P.8.2:	Articulate a position on a health-related issue and support it with accurate health information. **Clarifications:** Bullying prevention, Internet safety, and nutritional choices.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
MAFS.6.RP.1.1:	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*

General Course Information and Notes

VERSION DESCRIPTION

This course is designed for 6th and 7th grade students and intended to be 18 weeks in length. The purpose of this course is to provide a foundation of knowledge, skills, and values necessary for the development of a physically active lifestyle. The course content provides exposure to a variety of movement opportunities and experiences which includes, but is not limited to: Fitness Activities, Educational Gymnastics and Dance, and Team Sports. The integration of fitness concepts throughout the content is critical to student success in this course and in the development of a healthy and physically active lifestyle.

GENERAL NOTES

Special Notes:
Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J COMPRE PE GR6/7
Course Length: Semester (S)
Course Level: 2

Course Status: Draft - Course Pending Approval

M/J Comprehensive Physical Education Grade 7/8 (#1508070) 2019 - 2022 (current)

Course Standards

Name	Description
PE.7.C.2.6:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.7.C.2.9:	Describe how movement skills learned in one physical activity can be transferred and used in other physical activities. **Clarifications:** An example is slow-pitch softball and volleyball underhand serve.
PE.7.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.7.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.7.M.1.1:	Participate in modified versions of team sports demonstrating mature patterns while using a variety of manipulative skills. **Clarifications:** Some examples of manipulative skills are throwing, catching, kicking, punting, trapping, dribbling, volleying and striking.
PE.7.M.1.2:	Use basic offensive and defensive strategies while playing modified versions of a variety of sports and activities. **Clarifications:** An example of a modified version of a sport or activity is a small sided game.
PE.7.M.1.3:	Demonstrate appropriate relationships between the body and an opponent in dynamic game situations. **Clarifications:** Some examples are staying between opponent and goal and moving between opponent and the ball.
PE.7.M.1.6:	Demonstrate the critical elements in specialized skills related to a variety of team sports or outdoor pursuits activities. **Clarifications:** Some examples are overhand throw for distance/force, forearm passing in volleyball, steering a canoe, batting and the correct stance in archery.
PE.7.M.1.8:	Apply technology to evaluate, monitor and improve individual skill performance. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes and digital cameras.
PE.7.M.1.9:	Demonstrate principles of biomechanics necessary for safe and successful performance.
PE.7.R.5.1:	Identify situations in which peer pressure could negatively impact one's own behavior choices.
PE.7.R.5.2:	Demonstrate acceptance and respect for persons of diverse backgrounds and abilities in physical-activity settings.
PE.7.R.5.3:	Demonstrate responsible behaviors during physical activities. **Clarifications:** Some examples of responsible behaviors are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.7.R.5.4:	List examples of appropriate personal, social and ethical behaviors that apply to specific physical activities.
PE.7.R.6.2:	Discuss the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.7.R.6.3:	Participate in games, sports and/or physical activities from other cultures.
PE.8.C.2.3:	Explain basic offensive and defensive strategies in individual/dual sports.
PE.8.C.2.4:	Explain basic offensive and defensive strategies in alternative/extreme sports activities.
PE.8.C.2.5:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.8.C.2.6:	Identify the critical elements for successful performance in a variety of sport skills or physical activities.
PE.8.C.2.7:	List specific safety procedures and equipment necessary for a variety of sport skills and physical activities.
PE.8.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.8.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.8.L.3.3:	Participate in a variety of individual/dual and alternative/extreme sport activities that promote health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.8.L.3.4:	Identify the in-school opportunities for participation in individual/dual and alternative/extreme sports.
PE.8.L.3.5:	Identify the community opportunities for participation in individual/dual and alternative/extreme sports.
PE.8.L.3.6:	Identify a variety of individual/dual and alternative/extreme sport activities that promote stress management.
PE.8.L.4.1:	Create, implement and assess a personal fitness program in collaboration with a teacher.
PE.8.L.4.2:	Develop goals and strategies for a personal physical fitness program.
PE.8.L.4.3:	Use available technology to assess, design and evaluate a personal physical fitness program.
PE.8.L.4.4:	Develop a personal fitness program including a variety of physical activities.
PE.8.L.4.5:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.

PE.8.M.1.2:	Demonstrate critical elements when striking with an object or implement.
PE.8.M.1.3:	Demonstrate body management for successful participation in a variety of modified games and activities. **Clarifications:** Some examples of body management are balance and agility.
PE.8.M.1.4:	Apply principles of biomechanics necessary for safe and successful performance.
PE.8.M.1.5:	Demonstrate appropriate speed and generation of force when distance running, sprinting, throwing, jumping, striking or kicking.
PE.8.M.1.6:	Demonstrate offensive, defensive and transition strategies and tactics.
PE.8.R.5.1:	List ways to act independently of peer pressure during physical activities.
PE.8.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.8.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials and accepting both victory and defeat.
PE.8.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials and accepting both victory and defeat.
PE.8.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.8.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.8.R.6.2:	Describe the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.8.R.6.3:	Compare and contrast games, sports and/or physical activities from other cultures.
HE.8.B.6.4:	Describe how personal health goals can vary with changing abilities, priorities, and responsibilities. **Clarifications:** Weight reduction, cost of healthier food, availability of exercise equipment, and general health.
HE.8.C.1.5:	Identify major chronic diseases that impact human body systems. **Clarifications:** Cancer, hypertension and coronary artery disease, asthma, and diabetes.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

General Course Information and Notes

VERSION DESCRIPTION

This course is designed for 7th and 8th grade students and is intended to be 18 weeks in length. The purpose of this course is to build on previously acquired knowledge, skills, and values necessary for the implementation and maintenance of a physically active lifestyle. The course content provides exposure to a variety of movement opportunities and experiences which include, but is not limited to: Outdoor Pursuits/Aquatics, Individual/Dual Sports and Alternative/Extreme Sports. The integration of fitness concepts throughout the content is critical to student success in this course and in the development of a healthy and physically active lifestyle.

GENERAL NOTES

Special Note:

Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.

4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J COMPRE PE GR7/8
Course Length: Semester (S)
Course Level: 2

Course Status: Draft - Course Pending Approval

M/J Wellness Education Grade 8 (#1508080) 2018 - 2022 (current)

Course Standards

Name	Description
PE.8.C.2.5:	Provide feedback on skill patterns of self and partner by detecting and correcting mechanical errors.
PE.8.C.2.6:	Identify the critical elements for successful performance in a variety of sport skills or physical activities.
PE.8.C.2.7:	List specific safety procedures and equipment necessary for a variety of sport skills and physical activities.
PE.8.C.2.8:	Describe how movement skills and strategies learned in one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve and surfing and skate boarding.
PE.8.L.3.1:	Participate in moderate physical activity on a daily basis.
PE.8.L.3.2:	Participate in vigorous physical activity on a daily basis.
PE.8.L.3.6:	Identify a variety of individual/dual and alternative/extreme sport activities that promote stress management.
PE.8.L.4.1:	Create, implement and assess a personal fitness program in collaboration with a teacher.
PE.8.L.4.2:	Develop goals and strategies for a personal physical fitness program.
PE.8.L.4.3:	Use available technology to assess, design and evaluate a personal physical fitness program.
PE.8.L.4.4:	Develop a personal fitness program including a variety of physical activities.
PE.8.L.4.5:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.
PE.8.L.4.6:	Define training principles appropriate for enhancing cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition. **Clarifications:** Some examples of training principles are overload and specificity.
PE.8.M.1.3:	Demonstrate body management for successful participation in a variety of modified games and activities. **Clarifications:** Some examples of body management are balance and agility.
PE.8.M.1.4:	Apply principles of biomechanics necessary for safe and successful performance.
PE.8.M.1.7:	Apply skill-related components of balance, reaction time, agility, coordination, power and speed to enhance performance levels.
PE.8.M.1.8:	Apply technology to evaluate, monitor and improve individual motor skills. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes and digital cameras.
PE.8.M.1.9:	Select and utilize appropriate safety equipment.
PE.8.R.5.1:	List ways to act independently of peer pressure during physical activities.
PE.8.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.8.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials and accepting both victory and defeat.
PE.8.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.8.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.8.R.6.2:	Describe the potential benefits of participation in a variety of physical activities. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
HE.8.B.4.1:	Illustrate skills necessary for effective communication with family, peers, and others to enhance health. **Clarifications:** Refusal skills, nonverbal communication, asking questions, "I" messages, assertiveness, negotiation, and making requests.
HE.8.B.4.3:	Examine the possible causes of conflict among youth in schools and communities. **Clarifications:** Relationships, territory, jealousy, and gossip/rumors.
HE.8.B.5.2:	Categorize healthy and unhealthy alternatives to health-related issues or problems. **Clarifications:** (Alcohol consumption, sleep requirements, physical activity, and time management.)
HE.8.B.5.3:	Compile the potential outcomes of each option when making a health-related decision. **Clarifications:** Consequences: injury, addiction, and legal, social, sexual, and financial.
HE.8.B.5.5:	Evaluate the outcomes of a health-related decision. **Clarifications:** Addiction from alcohol consumption, brain damage from inhalant use, pregnancy from sexual activity, and weight management from proper nutrition.
	Design an individual goal to adopt, maintain, or improve a personal health practice.

HE.8.B.6.2:	**Clarifications:** Physical activity, eating habits, cyber bullying, social relationships, and sleep habits.
HE.8.B.6.3:	Apply strategies and skills needed to attain a personal health goal. **Clarifications:** Physical activity, nutrition modification, and anger management.
HE.8.B.6.4:	Describe how personal health goals can vary with changing abilities, priorities, and responsibilities. **Clarifications:** Weight reduction, cost of healthier food, availability of exercise equipment, and general health.
HE.8.C.1.2:	Analyze the interrelationship between healthy/unhealthy behaviors and the dimensions of health: physical, mental/emotional, social, and intellectual. **Clarifications:** Sleep/studying for tests, road rage/vehicular crashes, bullying/depression, and healthy relationships/emotional health.
HE.8.C.1.4:	Investigate strategies to reduce or prevent injuries and other adolescent health problems. **Clarifications:** Recognize signs and symptoms of depression, accessing resources, abstinence to reduce sexually transmitted diseases, sexually transmitted infections, and pregnancy; places to avoid; and healthy relationship skills.
HE.8.C.1.8:	Anticipate the likelihood of injury or illness if engaging in unhealthy/risky behaviors. **Clarifications:** Death or injury from car crashes and underage drinking/distracted driving, injuries resulting from fighting and bullying, and respiratory infections from poor hygiene.
HE.8.C.2.2:	Assess how the health beliefs of peers may influence adolescent health. **Clarifications:** Drug-use myths, perception of healthy body composition, and perceived benefits of energy drinks.
HE.8.C.2.3:	Analyze how the school and community may influence adolescent health. **Clarifications:** Drug-abuse education programs, volunteering opportunities, and availability of recreational facilities/programs.
HE.8.C.2.6:	Analyze the influence of technology on personal and family health. **Clarifications:** TV advertisements for unhealthy foods, volume of headphones, websites, and social marketing for health information.
HE.8.C.2.8:	Explain how the perceptions of norms influence healthy and unhealthy behaviors. **Clarifications:** Sexual abstinence, prescription-drug use, marijuana use, and perception that certain abusive-relationship behaviors are "normal."
HE.8.C.2.9:	Analyze the influence of personal values, attitudes, and beliefs about individual health practices and behaviors. **Clarifications:** Social conformity, desires, and impulses.
HE.8.P.7.1:	Assess the importance of assuming responsibility for personal-health behaviors, including sexual behavior. **Clarifications:** Sexual abstinence, skin care, and drug abuse.
HE.8.P.7.2:	Apply healthy practices and behaviors that will maintain or improve personal health and reduce health risks. **Clarifications:** Participate in various physical activities, foster healthy relationships, set healthy goals, make healthy food choices, and practice Internet safety, resist negative peer pressure, get adequate sleep, and engage in respectful equality-based relationships.
HE.8.P.8.1:	Promote positive health choices with the influence and support of others. **Clarifications:** Promotion of oral health, sexual abstinence, no alcohol, tobacco, and other drug abuse.
HE.8.P.8.3:	Work cooperatively to advocate for healthy individuals, peers, families, and schools. **Clarifications:** Promote community initiatives; create media campaigns, peer-led prevention campaigns, and school wellness councils.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending

MAFS.K12.MP.1.1:	on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

General Course Information and Notes

VERSION DESCRIPTION

This semester-long Wellness Education course is designed for 8th grade students, the purpose of which is to further develop the knowledge, skills and values to enhance healthy behaviors that influence lifestyle choices and student health and fitness. Students will realize the full benefit of this course when it is taught with an integral approach.

English Language Development (ELD) Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1508080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: M/J WELLNESS ED GR 8
Course Length: Semester (S)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 8

HOPE-Physical Education (Core) (#3026010) 2015 - 2022 (current)

Course Standards

Name	Description
PE.912.C.2.6:	Compare and contrast the health-related benefits of various physical activities.
PE.912.C.2.7:	Evaluate the effectiveness of specific warm-up and cool-down activities.
PE.912.C.2.8:	Differentiate between the three different types of heat illnesses associated with fluid loss. **Clarifications:** The three types of heat illnesses are heat cramps, heat exhaustion and heat stroke.
PE.912.C.2.9:	Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions. **Clarifications:** Some examples of precautions are hydration and appropriate attire.
PE.912.C.2.10:	Analyze long-term benefits of regularly participating in physical activity.
PE.912.C.2.11:	Explain how each of the health-related components of fitness are improved through the application of training principles. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.C.2.12:	Compare and contrast aerobic versus anaerobic activities.
PE.912.C.2.13:	Document food intake, calories consumed and energy expended through physical activity and analyze the results.
PE.912.C.2.14:	Compare and contrast the skill-related components of fitness used in various physical activities. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.15:	Calculate individual target heart-rate zone and analyze how to adjust intensity level to stay within the desired range.
PE.912.C.2.16:	Explain the methods of monitoring levels of intensity during aerobic activity. **Clarifications:** Some examples are a talk test, rate of perceived exertion and checking one's heart rate/pulse.
PE.912.C.2.17:	Assess physiological effects of exercise during and after physical activity. **Clarifications:** Some examples are breathing, resting heart rate and blood pressure.
PE.912.C.2.18:	Differentiate between fact and fallacy as it relates to consumer physical fitness products and programs. **Clarifications:** Some examples are weight-loss pills, food labels and exercise equipment.
PE.912.C.2.22:	Explain the skill-related components of fitness and how they enhance performance levels. **Clarifications:** The skill-related components of fitness are speed, coordination, balance, power, agility and reaction time.
PE.912.C.2.23:	Apply appropriate technology and analyze data to evaluate, monitor and/or improve performance.
PE.912.C.2.25:	Analyze and evaluate the risks, safety procedures, rules and equipment associated with specific course activities.
PE.912.C.2.27:	Compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.912.L.3.1:	Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.
PE.912.L.3.2:	Participate in a variety of activities that promote the health-related components of fitness. **Clarifications:** The health-related components of fitness are cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
PE.912.L.3.4:	Identify the in-school opportunities for participation in a variety of physical activities.
PE.912.L.3.5:	Identify the community opportunities for participation in a variety of physical activities.
PE.912.L.3.6:	Identify risks and safety factors that may affect physical activity throughout life.
PE.912.L.4.1:	Design a personal fitness program. **Clarifications:** Some examples of things to consider when designing a personal fitness program are timelines and current fitness level.
PE.912.L.4.2:	Identify ways to self-assess and modify a personal fitness program.
PE.912.L.4.3:	Identify strategies for setting goals when developing a personal fitness program.
PE.912.L.4.4:	Use available technology to assess, design and evaluate a personal fitness program.
PE.912.L.4.5:	Apply the principles of training to personal fitness goals. **Clarifications:** Some examples of training principles are overload, specificity and progression.

PE.912.L.4.6:	Identify health-related problems associated with low levels of cardiorespiratory endurance, muscular strength and endurance, flexibility and body composition.
PE.912.L.4.7:	Evaluate how to make changes in an individual wellness plan as lifestyle changes occur.
PE.912.M.1.12:	Select and perform complex movements using a variety of equipment which lead to improved or maintained muscular strength and endurance. **Clarifications:** An example is performing plyometrics.
PE.912.M.1.13:	Perform a student-designed cardiorespiratory enhancing workout.
PE.912.M.1.14:	Utilize technology to assess, enhance and maintain health and skill-related fitness levels. **Clarifications:** Some examples of technology are Excel spreadsheets or web based programs to chart or log activities, heart rate monitors, videotapes or digital cameras.
PE.912.M.1.15:	Select and apply sport/activity specific warm-up and cool-down techniques.
PE.912.M.1.16:	Apply the principles of training and conditioning to accommodate individual needs and strengths. **Clarifications:** Some examples of training principles are overload, specificity and progression.
PE.912.M.1.17:	Demonstrate basic cardiopulmonary resuscitation (CPR) procedures.
PE.912.M.1.19:	Use correct body alignment, strength, flexibility and coordination in the performance of technical movements.
PE.912.M.1.33:	Practice complex motor activities in order to improve performance.
PE.912.M.1.34:	Demonstrate use of the mechanical principles as they apply to specific course activities. **Clarifications:** Some examples are balance, force and leverage.
PE.912.M.1.35:	Select proper equipment and apply all appropriate safety procedures necessary for participation.
PE.912.R.5.2:	Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.
PE.912.R.5.3:	Demonstrate sportsmanship during game situations. **Clarifications:** Some examples are controlling emotions, resolving conflicts, respecting opponents and officials, and accepting both victory and defeat.
PE.912.R.5.4:	Maintain appropriate personal, social and ethical behavior while participating in a variety of physical activities. **Clarifications:** Some examples are respecting teammates, opponents and officials, and accepting both victory and defeat.
PE.912.R.5.5:	Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.
PE.912.R.6.1:	Discuss opportunities for participation in a variety of physical activities outside of the school setting that contribute to personal enjoyment and the attainment or maintenance of a healthy lifestyle.
PE.912.R.6.2:	Analyze physical activities from which benefits can be derived. **Clarifications:** Some examples of potential benefits are physical, mental, emotional and social.
PE.912.R.6.3:	Analyze the roles of games, sports and/or physical activities in other cultures.
HE.912.B.4.2:	Assess refusal, negotiation, and collaboration skills to enhance health and avoid or reduce health risks. **Clarifications:** Validate other's opinions, use direct statement, use active statement, and offer alternatives.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.4.4:	Analyze the validity of ways to ask for and offer assistance to enhance the health of self and others. **Clarifications:** Verbal and written communication, active listening, and how to seek help for a friend.
HE.912.B.5.1:	Determine the value of applying a thoughtful decision-making process in health-related situations. **Clarifications:** Defining healthy boundaries and relationships, sexual activity, alcohol consumption, organ-donor decisions, child care, protection against infectious agents, wellness promotion, and first-aid-treatment options.
HE.912.B.5.2:	Generate alternatives to health-related issues or problems. **Clarifications:** Health benefits of menu options, refusal-skill options, pre- and post-natal care, natural and man-made conditions, and current trends in disease prevention.
HE.912.B.5.3:	Appraise the potential short-term and long-term outcomes of each alternative on self and others. **Clarifications:** Nutrition plan based on personal needs and preferences, impact of chronic health condition on individual and family, weapons on campus, and use of stress management and coping skills.
HE.912.B.5.4:	Assess whether individual or collaborative decision making is needed to make a healthy decision. **Clarifications:** Planning a post-high school career/education, purchasing the family's groceries for the week, planning the weekly menu, planning appropriate activities for siblings, community planning, Internet safety, and purchasing insurance.
HE.912.B.6.1:	Evaluate personal health practices and overall health status to include all dimensions of health. **Clarifications:** Personal strengths, physical fitness, peer relationships, environmental health, personal hygiene, non-communicable illness or disease, injury prevention, and first-aid responder's safety practices.

HE.912.B.6.2:	Formulate a plan to attain a personal health goal that addresses strengths, needs, and risks. **Clarifications:** Weight management, comprehensive physical fitness, stress management, dating relationships, risky behaviors, and a wellness-program plan.
HE.912.B.6.3:	Implement strategies and monitor progress in achieving a personal health goal. **Clarifications:** Stress management, time out, using of a squeeze ball when frustrated, talking with a friend or professional, pacing yourself, setting realistic expectations, using rewards, getting support, and wellness promotion.
HE.912.B.6.4:	Formulate an effective long-term personal health plan. **Clarifications:** Stress reduction, weight management, healthier eating habits, improved physical fitness, and individual responsibilities for protecting health.
HE.912.C.1.1:	Predict how healthy behaviors can affect health status. **Clarifications:** Making positive choices/avoiding risky behaviors: healthy food, substance abuse, and healthy relationship skills; regular medical and dental screenings; regular physical activity, and workplace safety.
HE.912.C.1.2:	Interpret the significance of interrelationships in mental/emotional, physical, and social health. **Clarifications:** Substance abuse, eating disorders, sexual behaviors, healthy/unhealthy relationships, self-esteem, stress/anger management, and regular exercise.
HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
HE.912.C.1.8:	Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. **Clarifications:** Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.
HE.912.C.2.1:	Analyze how the family influences the health of individuals. **Clarifications:** Nutritional management of meals, composition of and relationships within families, and health-insurance status.
HE.912.C.2.2:	Compare how peers influence healthy and unhealthy behaviors. **Clarifications:** Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.
HE.912.C.2.3:	Assess how the school and community can affect personal health practice and behaviors. **Clarifications:** Healthier foods, required health education, health screenings, and enforcement of "no tolerance" policies related to all forms of violence, and AED availability and training.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.
HE.912.C.2.5:	Evaluate the effect of media on personal and family health. **Clarifications:** Compares brand-name/store-brand items in home, analyzes television viewing habits, identifies effective PSAs, consumer skills, advertisements of health-related community resources, participation in risky behaviors, and deconstructs media to identify promotion of unhealthy stereotypes, and normalization of violence.
HE.912.C.2.6:	Evaluate the impact of technology on personal, family, and community health. **Clarifications:** Automated external defibrillator in the community, pedestrian crosswalks with audible directions, type of information requested from local 211/hotlines or websites, consumer websites, Internet safety, and disease prevention and control.
HE.912.C.2.7:	Analyze how culture supports and challenges health beliefs, practices, and behaviors. **Clarifications:** Various cultures' dietary patterns, rites of passage, courtship practices, family roles, personal relationships, ethics, and parenting.
HE.912.C.2.8:	Analyze how the perceptions of norms influence healthy and unhealthy behaviors. **Clarifications:** Driving over the speed limit, teen parenting, binge drinking, relationships, parenting, health information, environmental practices, and media messages.
HE.912.C.2.9:	Evaluate the influence of personal values, attitudes, and beliefs about individual health practices and behaviors. **Clarifications:**

	Social conformity, self-discipline, and impulse vs. delayed gratification.
HE.912.P.7.1:	Analyze the role of individual responsibility in enhancing health. **Clarifications:** Food choices, media messages, future impact of lifestyle choices, individual responsibility for health protection, and stress management.
HE.912.P.7.2:	Evaluate healthy practices and behaviors that will maintain or improve health and reduce health risks. **Clarifications:** Lifestyle choices: drug use/abuse, healthy diet, controlling modes of transmission of infectious agents, riding with impaired drivers, seeking mental-health services when needed, sexual behavior, and engaging in healthy relationships.
HE.912.P.8.1:	Demonstrate how to influence and support others in making positive health choices. **Clarifications:** Avoidance of underage drinking, prevention of driving under the influence, suicide prevention, promotion of healthy dating/personal relationships, responsible parenting, disease prevention, and promotion of first-aid training.
HE.912.P.8.3:	Work cooperatively as an advocate for improving personal, family, and community health. **Clarifications:** Support local availability of healthy food options; environmentally friendly shopping; victim, drug or teen court advocacy; advocate for peer-led abuse-prevention education programs, community resource information; and home/school safety.
LAFS.910.L.3.6:	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
LAFS.910.RL.2.4:	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

General Course Information and Notes

VERSION DESCRIPTION

The purpose of this course is to develop and enhance healthy behaviors that influence lifestyle choices and student health and fitness. Students will realize the full benefit of this course when it is taught with an integrated approach.

In addition to the physical education content represented in the benchmarks below, specific health education topics within this course include, but are not limited to:

Mental/Social Health
Physical Activity
Components of Physical Fitness
Nutrition and Wellness Planning
Diseases and Disorders
Health Advocacy
First Aid/CPR
Alcohol, Tobacco, and Drug Prevention
Human Sexuality including Abstinence and HIV
Internet Safety

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 3026010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Combined Courses >

Abbreviated Title: HOPE

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Health Education (Secondary Grades 7-12) Plus Physical Education (Elementary and Secondary Grades K-12)
Family and Consumer Science (Grades 6-12) Plus Physical Education (Elementary and Secondary Grades K-12)
Health Education (Secondary Grades 7-12) Plus Physical Education (Grades 6-12)
Family and Consumer Science (Grades 6-12) Plus Physical Education (Grades 6-12)
Health (Elementary and Secondary Grades K-12) Plus Physical Education (Elementary and Secondary Grades K-12)
Health (Elementary and Secondary Grades K-12) Plus Physical Education (Grades 6-12)

Cambridge Pre-AICE Physical Education IGCSE Level (#3026015) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 3026015

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Combined Courses >

Abbreviated Title: PRE-AICE PHYS ED IG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

Cambridge AICE Physical Education 1 AS Level (#3026020) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 3026020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Physical Education > **SubSubject:** Combined Courses >

Abbreviated Title: AICE PHYS ED 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Physical Education

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)
Biology (Grades 6-12)

Elementary Adaptive Physical Education IEP or 504 Plan (#5015000) 2015 - 2022 (current)

Course Standards

Name	Description
PE.K.C.2.1:	Recognize locomotor skills. **Clarifications:** Some examples of locomotor skills are walking, running, skipping, leaping, hopping, jumping and galloping.
PE.K.C.2.2:	Recognize physical activities have safety rules and procedures. **Clarifications:** An example would be to put equipment away when not in use in order to keep the physical activity area safe.
PE.K.C.2.4:	Recognize there are deep and shallow areas of a pool, and identify the dangers of entering a body of water without supervision. **Clarifications:** An example of a danger is entering the water when there is not an adult present.
PE.K.C.2.7:	Identify personal and general space.
PE.K.C.2.8:	Recognize movement concepts. **Clarifications:** Some examples of movement concepts are directions, pathways and levels.
PE.K.L.3.4:	Identify opportunities for involvement in physical activities after the school day.
PE.K.L.3.6:	Identify the benefits of participating in physical activity.
PE.K.L.3.7:	Verbally state the search used before crossing a roadway.
PE.K.L.4.1:	Identify the location of muscles that help the body perform specific physical activities.
PE.K.L.4.2:	Identify that the heart beats faster during more intense physical activity.
PE.K.L.4.3:	Identify activities that increase breathing and heart rate.
PE.K.L.4.5:	Identify a benefit of flexibility.
PE.K.L.4.6:	Differentiate between healthy and unhealthy food choices.
PE.K.M.1.1:	Use a variety of locomotor skills to travel in personal and general space. **Clarifications:** Some examples of locomotor skills are running, galloping and skipping.
PE.K.M.1.3:	Balance a lightweight object on a paddle/racket while moving.
PE.K.M.1.5:	Use two hands to bounce and catch a large playground ball.
PE.K.M.1.7:	Catch a variety of self-tossed objects.
PE.K.M.1.8:	Roll and throw a variety of objects using an underhand motion.
PE.K.M.1.11:	Balance on a variety of body parts.
PE.K.R.5.1:	Identify ways to cooperate with a partner during physical activity.
PE.K.R.5.2:	Use equipment safely and properly.
PE.K.R.5.3:	Identify ways to treat others with respect during physical activity.
PE.K.R.6.1:	Identify physical activities that are enjoyable.
PE.K.R.6.2:	Identify a benefit of willingly trying new movements and motor skills.
PE.K.R.6.3:	Identify the benefits of continuing to participate when not successful on the first try.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.K12.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
MAFS.K.G.1.1:	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind, and next to.*

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 5015000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Physical Education > **SubSubject:** General >

Abbreviated Title: E ADAP PE IEP/504

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Status: Draft - Course Pending Approval

Grade Level(s): K,1,2,3,4,5

Physical Education - Grade Kindergarten (#5015020) 2015 - 2022 (current)

Course Standards

Name	Description
PE.K.C.2.1:	Recognize locomotor skills. **Clarifications:** Some examples of locomotor skills are walking, running, skipping, leaping, hopping, jumping and galloping.
PE.K.C.2.2:	Recognize physical activities have safety rules and procedures. **Clarifications:** An example would be to put equipment away when not in use in order to keep the physical activity area safe.
PE.K.C.2.3:	Recognize technology can be utilized during physical activity. **Clarifications:** Some examples of developmentally-appropriate technology for students to recognize are stop watches, pedometers and scales.
PE.K.C.2.4:	Recognize there are deep and shallow areas of a pool, and identify the dangers of entering a body of water without supervision. **Clarifications:** An example of a danger is entering the water when there is not an adult present.
PE.K.C.2.5:	Recognize the concept of a dominant hand/foot for throwing/striking/kicking patterns. **Clarifications:** A dominant hand/foot is the one selected by the student that feels most natural for throwing/striking/kicking.
PE.K.C.2.6:	Recite cues for a variety of movement patterns and skills. **Clarifications:** Some examples of movement patterns and skills are locomotor, non-locomotor, throwing and catching.
PE.K.C.2.7:	Identify personal and general space.
PE.K.C.2.8:	Recognize movement concepts. **Clarifications:** Some examples of movement concepts are directions, pathways and levels.
PE.K.L.3.1:	Identify a moderate physical activity.
PE.K.L.3.2:	Identify a vigorous physical activity.
PE.K.L.3.3:	Identify opportunities for involvement in physical activities during the school day.
PE.K.L.3.4:	Identify opportunities for involvement in physical activities after the school day.
PE.K.L.3.5:	Describe physical-activity goal-setting.
PE.K.L.3.6:	Identify the benefits of participating in physical activity.
PE.K.L.3.7:	Verbally state the search used before crossing a roadway.
PE.K.L.4.1:	Identify the location of muscles that help the body perform specific physical activities.
PE.K.L.4.2:	Identify that the heart beats faster during more intense physical activity.
PE.K.L.4.3:	Identify activities that increase breathing and heart rate.
PE.K.L.4.4:	Identify a physiological sign of participating in physical activity.
PE.K.L.4.5:	Identify a benefit of flexibility.
PE.K.L.4.6:	Differentiate between healthy and unhealthy food choices.
PE.K.M.1.1:	Use a variety of locomotor skills to travel in personal and general space. **Clarifications:** Some examples of locomotor skills are running, galloping and skipping.
PE.K.M.1.2:	Strike objects using body parts forcefully. **Clarifications:** An example is kicking a soccer ball with your foot.
PE.K.M.1.3:	Balance a lightweight object on a paddle/racket while moving.
PE.K.M.1.4:	Strike an object forcefully using a modified, long-handled implement of various sizes, weights and compositions. **Clarifications:** Some examples of modified, developmentally- appropriate long-handled implements are bats, hockey sticks and golf clubs.
PE.K.M.1.5:	Use two hands to bounce and catch a large playground ball.
PE.K.M.1.6:	Participate in a variety of introductory water skills. **Clarifications:** Some examples of introductory water skills are water entry, putting face in water and supported with feet off the bottom.
PE.K.M.1.7:	Catch a variety of self-tossed objects.
PE.K.M.1.8:	Roll and throw a variety of objects using an underhand motion.

PE.K.M.1.9:	Throw a variety of objects forcefully using an overhand motion.
PE.K.M.1.10:	Perform a creative-movement sequence with a clear beginning balance, at least one movement and a clear ending shape.
PE.K.M.1.11:	Balance on a variety of body parts.
PE.K.M.1.12:	Perform a variety of rolling actions. **Clarifications:** Some examples of rolling actions are pencil roll and forward roll.
PE.K.M.1.13:	Move in a variety of ways in relation to others. **Clarifications:** Some examples of this are chasing, fleeing and dodging.
PE.K.R.5.1:	Identify ways to cooperate with a partner during physical activity.
PE.K.R.5.2:	Use equipment safely and properly.
PE.K.R.5.3:	Identify ways to treat others with respect during physical activity.
PE.K.R.6.1:	Identify physical activities that are enjoyable.
PE.K.R.6.2:	Identify a benefit of willingly trying new movements and motor skills.
PE.K.R.6.3:	Identify the benefits of continuing to participate when not successful on the first try.
HE.K.B.5.1:	Name situations when a health-related decision can be made individually or when assistance is needed. **Clarifications:** Recreational water activities. Some examples of individual decisions may be participating safely in aquatic activities, following school rules, getting dressed, choosing appropriate clothes, and practicing good hygiene.
HE.K.C.1.2:	Recognize the physical dimensions of health. **Clarifications:** Hygiene, exercise, eating habits, and cooperation.
HE.K.P.7.1:	Identify healthy practices and behaviors to maintain or improve personal health. **Clarifications:** Seek a safe environment, seek help, and practice universal precautions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.K12.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
MAFS.K.G.1.1:	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind, and next to.*

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 5015020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Physical Education > **SubSubject:** General > **Abbreviated Title:** PHYSICAL EDUCATION K **Course Length:** Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): K

Physical Education - Grade 1 (#5015030) 2015 - 2022 (current)

Course Standards

Name	Description
PE.1.C.2.1:	Identify the critical elements of locomotor skills. **Clarifications:** Some examples of critical elements of locomotor skills are step-hop for skipping and use of one foot for hopping.
PE.1.C.2.2:	Identify safety rules and procedures for teacher-selected physical activities. **Clarifications:** An example of a safety procedure is having students stand a safe distance away from a student swinging a bat during striking activities.
PE.1.C.2.3:	Identify technology that can be utilized to enhance physical activity. **Clarifications:** Some examples of developmentally-appropriate technology for students to identify are stop watches, pedometers and scales.
PE.1.C.2.4:	Identify the rules for safe water activities, and recognize the importance of having a lifeguard near water or in a swimming facility. **Clarifications:** An example of a rule for safe water activity would be the use of a life jacket.
PE.1.C.2.5:	Recognize the importance of practicing to improve performance. **Clarifications:** An example is initially getting two out of five bean bags into a hoop while performing an underhand toss, then improving to four out of five due to practicing.
PE.1.C.2.6:	Use skill cues to improve performance. **Clarifications:** Some examples of skill cues are palm up for an underhand throw and keep ball close to body when dribbling.
PE.1.C.2.7:	Identify dominant hand/foot for use with throwing/dribbling/striking/kicking skills. **Clarifications:** A dominant hand/foot is the one selected by the student that feels most natural for throwing/dribbling/striking/kicking patterns.
PE.1.C.2.8:	Identify movement concepts. **Clarifications:** Some examples of movement concepts are directions, pathways and levels.
PE.1.C.2.9:	Name examples of warm-up and cool-down exercises. **Clarifications:** An example of a warm-up exercise is an activity that gets your blood flowing. An example of a cool-down exercise is one that slows your heart rate.
PE.1.L.3.1:	Identify a moderate physical activity.
PE.1.L.3.2:	Identify a vigorous physical activity.
PE.1.L.3.3:	Identify opportunities for involvement in physical activities during the school day.
PE.1.L.3.4:	Identify opportunities for involvement in physical activities after the school day.
PE.1.L.3.5:	Set physical-activity goals.
PE.1.L.3.6:	Identify the health benefits of physical activity.
PE.1.L.3.7:	Identify edges, pedestrians, vehicles and traffic.
PE.1.L.4.1:	Identify a benefit of strengthening muscles.
PE.1.L.4.2:	Identify the components of health-related physical fitness.
PE.1.L.4.3:	Identify the changes in heart rate before, during and after physical activity.
PE.1.L.4.4:	Identify the difference in the activity of the heart during rest and while physically active.
PE.1.L.4.5:	Discuss the physiological signs of physical activity.
PE.1.L.4.6:	Identify how to properly flex and extend body parts to promote flexibility.
PE.1.L.4.7:	Identify the food groups.
PE.1.M.1.1:	Travel using various locomotor skills while changing directions, pathways and speeds.
PE.1.M.1.2:	Strike an object upward using body parts. **Clarifications:** An example is using different body parts to strike a balloon or beach ball upward.
PE.1.M.1.3:	Strike a lightweight object upward continuously using a paddle/racket.
PE.1.M.1.4:	Strike a stationary object a short distance using a modified, long-handled implement so that the object travels in the intended direction. **Clarifications:** Some examples of modified, developmentally- appropriate, long-handled implements are bats, hockey sticks and golf clubs.
PE.1.M.1.5:	Dribble an object with hands or feet while demonstrating control in general space.
PE.1.M.1.6:	Demonstrate a variety of basic water skills. **Clarifications:** Some examples of basic water skills are prone float and recover, back float with assistance and move forward and backward with assistance.

PE.1.M.1.7:	Move in different directions to catch a variety of self-tossed objects.
PE.1.M.1.8:	Demonstrate an underhand-throwing motion for accuracy using correct technique.
PE.1.M.1.9:	Demonstrate an overhand-throwing motion for distance using correct technique.
PE.1.M.1.10:	Perform a self-designed creative movement/dance sequence with a clear beginning balance, use of one movement and a different and clear ending shape.
PE.1.M.1.11:	Demonstrate a sequence of a balance, a roll and a different balance.
PE.1.M.1.12:	Demonstrate the ability to take weight onto hands. **Clarifications:** Some developmentally appropriate examples are donkey kicks and hand stands.
PE.1.M.1.13:	Chase, flee and dodge to avoid or catch others.
PE.1.M.1.14:	Use a variety of takeoff and landing patterns to jump, hop and leap safely in relation to various types of equipment. **Clarifications:** Some examples of equipment are hoops, stationary ropes and boxes.
PE.1.R.5.1:	List a benefit resulting from cooperation and sharing during physical activity.
PE.1.R.5.2:	Use physical-activity space safely and properly.
PE.1.R.5.3:	Demonstrate consideration of others while participating in physical activity.
PE.1.R.6.1:	Identify physical-activity preferences.
PE.1.R.6.2:	Identify feelings resulting from participation in physical activity.
PE.1.R.6.3:	Identify the benefits of learning new movement skills.
HE.1.B.5.2:	Identify healthy options to health-related issues or problems. **Clarifications:** Wearing bike helmet, using age- appropriate restraints, and reporting danger.
HE.1.C.1.3:	Describe ways to prevent common communicable diseases. **Clarifications:** Washing hands, covering mouth to cough and sneeze, get immunized, and do not share food or utensils.
HE.1.P.8.1:	Encourage others to make positive health choices. **Clarifications:** Use sunscreen, cross the street at marked areas, and select healthy foods.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.K12.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
MAFS.1.OA.3.5:	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 5015030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: PHYSICAL EDUCATION 1
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 1

Physical Education - Grade 2 (#5015040) 2015 - 2022 (current)

Course Standards

Name	Description
PE.2.C.2.1:	Describe the critical elements of locomotor skills. **Clarifications:** An example of a critical element of jumping is beginning and ending on two feet.
PE.2.C.2.2:	Identify safety rules and procedures for selected physical activities. **Clarifications:** An example of a safety procedure is having students stand a safe distance away from a student swinging a bat during striking activities.
PE.2.C.2.3:	Utilize technology to enhance experiences in physical education. **Clarifications:** Some examples of developmentally-appropriate technology are stop watches, pedometers and scales.
PE.2.C.2.4:	Explain the importance of wearing a life jacket (personal flotation device) when on a boat or near water.
PE.2.C.2.5:	Explain how appropriate practice improves the performance of movement skills. **Clarifications:** An example is initially getting two out of five bean bags into a hoop while performing an underhand toss, then improving to four out of five due to practicing.
PE.2.C.2.6:	Apply teacher feedback to effect change in performance. **Clarifications:** An example is a student applying teacher feedback of stepping with the opposite foot when throwing a ball in order to improve performance.
PE.2.C.2.7:	Describe movement concepts. **Clarifications:** Some examples of movement concepts are directions, pathways and levels.
PE.2.C.2.8:	Explain the importance of warm-up and cool-down activities. **Clarifications:** An example of the importance for warm-up activities is the prevention of injuries.
PE.2.C.2.9:	Define offense and defense. **Clarifications:** Offense is when a team is attempting to score and defense is when a team is trying to prevent the other team from scoring.
PE.2.L.3.1:	Identify a moderate physical activity.
PE.2.L.3.2:	Identify a vigorous physical activity.
PE.2.L.3.3:	Identify opportunities for involvement in physical activities during the school day.
PE.2.L.3.4:	Identify opportunities for involvement in physical activities after the school day.
PE.2.L.3.5:	Set and meet physical-activity goals.
PE.2.L.3.6:	Identify how opportunities for participation in physical activities change during the seasons.
PE.2.L.3.7:	Identify healthful benefits that result from regular participation in physical activity.
PE.2.L.3.8:	Identify the proper crossing sequence.
PE.2.L.4.1:	Identify how muscular strength and endurance enhances performance in physical activities.
PE.2.L.4.2:	Discuss the components of health-related physical fitness.
PE.2.L.4.3:	Identify that a stronger heart muscle can pump more blood with each beat.
PE.2.L.4.4:	Identify why sustained physical activity causes an increased heart rate and heavy breathing.
PE.2.L.4.5:	Identify the physiological signs of moderate to vigorous physical activity.
PE.2.L.4.6:	Identify benefits of participation in informal physical fitness assessment.
PE.2.L.4.7:	Identify appropriate stretching exercises.
PE.2.L.4.8:	Categorize food into food groups.
PE.2.M.1.1:	Perform locomotor skills with proficiency in a variety of activity settings to include rhythms/dance.
PE.2.M.1.2:	Strike an object continuously using body parts both upward and downward. **Clarifications:** An example of striking an object downward is dribbling a basketball.
PE.2.M.1.3:	Strike an object continuously using a paddle/racket both upward and downward.
PE.2.M.1.4:	Strike a stationary object a short distance using a long-handled implement so that the object travels in the intended direction. **Clarifications:** Some examples of developmentally-appropriate, long-handled implements are bats, hockey sticks and golf clubs.
PE.2.M.1.5:	Dribble with hands and feet in various pathways, directions and speeds around stationary objects.
PE.2.M.1.6:	Perform a variety of fundamental aquatics skills. **Clarifications:** Some examples of fundamental aquatics skills are prone float with flutter kick and back float recover to a standing position.
PE.2.M.1.7:	Move in different directions to catch a variety of objects softly tossed by a stationary partner.

PE.2.M.1.8:	Demonstrate an overhand-throwing motion for distance demonstrating correct technique and accuracy.
PE.2.M.1.9:	Perform one folk or line dance accurately. **Clarifications:** An example of a line dance is the Electric Slide.
PE.2.M.1.10:	Demonstrate a sequence of a balance, a roll and a different balance with correct technique and smooth transitions.
PE.2.M.1.11:	Perform at least one skill that requires the transfer of weight to hands. **Clarifications:** Some developmentally appropriate examples are hand stands and cartwheels.
PE.2.M.1.12:	Chase, flee and dodge to avoid or catch others while maneuvering around obstacles.
PE.2.R.5.1:	Identify ways to cooperate with others regardless of personal differences during physical activity.
PE.2.R.5.2:	List ways to safely handle physical-activity equipment.
PE.2.R.5.3:	Describe the personal feelings resulting from challenges, successes and failures in physical activity.
PE.2.R.5.4:	Identify ways to successfully resolve conflicts with others.
PE.2.R.6.1:	Identify ways to use physical activity to express feeling.
PE.2.R.6.2:	Discuss the relationship between skill competence and enjoyment.
PE.2.R.6.3:	Identify ways to contribute as a member of a cooperative group.
HE.2.C.1.4:	Describe ways to prevent childhood injuries in the home, school, and community settings. **Clarifications:** Recognizing abusive behaviors, following bus/playground rules, and never playing with matches.
HE.2.C.2.1:	Describe how family rules and practices influence health behaviors. **Clarifications:** Consistent/inconsistent home safety rules and modeling of food- sanitation practices at home.
HE.2.C.2.3:	Describe how the school and community influence health behaviors of children. **Clarifications:** Health and safety fairs, school and community gardens, and recycling.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.K12.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
MAFS.2.OA.3.3:	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 5015040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Physical Education > **SubSubject:** General > **Abbreviated Title:** PHYSICAL EDUCATION 2 **Course Length:** Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 2

Physical Education - Grade 3 (#5015050) 2015 - 2022 (current)

Course Standards

Name	Description
PE.3.C.2.1:	Identify the importance of purposeful movement and its impact on quality of performance. **Clarifications:** Some examples of purposeful movement are timing, flow, rhythm, sequencing and transfer of weight.
PE.3.C.2.2:	Understand the importance of safety rules and procedures in all physical activities. **Clarifications:** An example of a safety procedure is wearing a helmet when riding a bicycle.
PE.3.C.2.3:	Understand that technology can be utilized to gather information about performance. **Clarifications:** Some examples of technology are pedometers, accelerometers, heart-rate monitors, videos, websites and spreadsheets.
PE.3.C.2.4:	Identify and explain different items that can be used for assisting in a water-related emergency. **Clarifications:** Some examples of items that can be used in a water related emergency are poles, towels and flotation devices.
PE.3.C.2.5:	Explain how appropriate practice improves performance of movement skills. **Clarifications:** An example is initially making two out of five free throws in basketball, then improving to four out of five due to practicing.
PE.3.C.2.6:	Analyze peer performance and provide feedback.
PE.3.C.2.7:	Identify the reasons for warm-up and cool-down activities. **Clarifications:** Some examples of reasons for warm-up and cool-down activities are injury prevention and enhancing performance.
PE.3.C.2.8:	Describe basic offensive and defensive tactics. **Clarifications:** An example of an offensive tactic is keeping your body between the ball and defender while dribbling.
PE.3.L.3.1:	Identify a moderate physical activity.
PE.3.L.3.2:	Identify a vigorous physical activity.
PE.3.L.3.3:	Identify opportunities for involvement in physical activities during the school day.
PE.3.L.3.4:	Identify opportunities for involvement in physical activities after the school day.
PE.3.L.3.5:	Use an activity log to maintain a personal record of participation in physical activity during a period of time.
PE.3.L.3.6:	Identify lifestyle changes that can be made to increase the level of physical activity.
PE.3.L.3.7:	Differentiate between the correct and incorrect way to fit a bicycle helmet.
PE.3.L.4.1:	Describe how muscular strength and endurance enhances performance in physical activities.
PE.3.L.4.2:	Describe the relationship between the heart and lungs during physical activity.
PE.3.L.4.3:	Identify appropriate physical activities that result in the development of cardiorespiratory endurance.
PE.3.L.4.4:	Match physical fitness assessment events to the associated fitness component.
PE.3.L.4.5:	Identify formal and informal physical fitness assessments.
PE.3.L.4.6:	Identify ways to safely stretch major muscle groups.
PE.3.L.4.7:	Read food labels for specific nutrition facts.
PE.3.L.4.8:	Identify the principles of physical fitness.
PE.3.L.4.9:	Identify individual strengths and weaknesses based upon results of a formal fitness assessment.
PE.3.L.4.10:	Identify ways that technology can assist in the pursuit of physical fitness.
PE.3.M.1.1:	Apply locomotor skills in a variety of movement settings. **Clarifications:** Some examples of movement settings are sequences, dances and games.
PE.3.M.1.2:	Strike a stationary object from a stationary position using body parts so that the object travels in the intended direction at the desired height. **Clarifications:** Some examples of striking activities are volleying, kicking and punting.
PE.3.M.1.3:	Strike an object using a paddle/racquet demonstrating correct technique of a forehand pattern.
PE.3.M.1.4:	Strike both moving and stationary objects using a long-handled implement. **Clarifications:** Some examples of developmentally-appropriate long-handled implements are bats, hockey sticks and golf clubs.
PE.3.M.1.5:	Maintain control while dribbling with hands or feet against a defender.
PE.3.M.1.6:	Demonstrate a combination of basic swim skills. **Clarifications:** Some examples of basic swim skills are prone and back float with flutter kick, alternating arm movements and treading water.
PE.3.M.1.7:	Move in different directions to catch objects of different sizes and weights thrown by a stationary partner.
PE.3.M.1.8:	Throw balls of various sizes and weights to a stationary partner using a correct overhand motion.

PE.3.M.1.9:	Perform a teacher-designed sequence using manipulatives. **Clarifications:** Some examples of sequences using manipulatives are tinikling poles, lummi sticks and jump ropes.
PE.3.M.1.10:	Perform one dance accurately. **Clarifications:** Some examples of dances are square, contra, step and social.
PE.3.M.1.11:	Perform a self-designed gymnastics sequence consisting of clear beginning and ending balances and two different movement elements with correct technique and smooth transitions. **Clarifications:** Some examples of movement elements are balances, rolling actions, changes in speed/ direction and skills requiring weight on hands.
PE.3.M.1.12:	Continuously jump a self-turned rope.
PE.3.R.5.1:	List ways to work cooperatively with peers of differing skill levels.
PE.3.R.5.2:	List ways to show respect for the views of a peer from a different cultural background.
PE.3.R.5.3:	Identify ways to take responsibility for his/her own behavior.
PE.3.R.6.1:	List personally challenging physical-activity experiences.
PE.3.R.6.2:	Describe ways to appreciate the good physical performance of others.
PE.3.R.6.3:	Identify ways to celebrate one's own physical accomplishments while displaying sportsmanship.
HE.3.B.5.2:	List healthy options to health-related issues or problems. **Clarifications:** Healthy alternatives to unhealthy messages in the media, fear of personal safety, and nutrition options.
HE.3.B.6.1:	Select a personal health goal and track progress toward achievement. **Clarifications:** Working collaboratively with class/small group, tracking daily physical activity, using seat belts and bike helmets, limiting media time, consuming healthy foods daily, understanding the dangers of drugs, practicing refusal and conflict-resolution skills.
HE.3.C.2.1:	Explore how family and friend's traditions and customs may influence health behaviors. **Clarifications:** Family nutritional choices, gatherings, fears, traditions, religious practices, belief in holistic approach, and accepted celebration behaviors demonstrated by others.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.K12.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
MAFS.3.MD.1.1:	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 5015050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: PHYSICAL EDUCATION 3
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 3

Physical Education - Grade 4 (#5015060) 2015 - 2022 (current)

Course Standards

Name	Description
PE.4.C.2.1:	Understand the importance of purposeful movement in a variety of movement settings. **Clarifications:** Some examples of purposeful movement are timing, flow, rhythm, sequencing and transfer of weight.
PE.4.C.2.2:	Understand the importance of safety rules and procedures in all physical activities, especially those that are high risk. **Clarifications:** An example of a safety procedure is having students stand a safe distance away from a student swinging a golf club during striking activities.
PE.4.C.2.3:	Use technology to gather information about performance. **Clarifications:** Some examples of technology are pedometers, accelerometers, heart-rate monitors, videos, websites and spreadsheets.
PE.4.C.2.4:	Understand the importance of protecting parts of the body from the harmful rays of the sun. **Clarifications:** Some examples are sunscreen and protective clothing.
PE.4.C.2.5:	Detect errors in personal movement patterns. **Clarifications:** An example of a way to detect errors in personal movement patterns is through the use of videotaping.
PE.4.C.2.6:	Compare and discuss skills/sports that use similar movement patterns. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.4.C.2.7:	Identify proper warm-up and cool-down techniques and the reasons for using them. **Clarifications:** An example of a warm-up technique for sprinting is stretching the hamstring muscles in order to prevent injury.
PE.4.C.2.8:	Identify the importance of hydration before, during and after physical activity. **Clarifications:** An example of the importance of hydration is to prevent heat-related illnesses.
PE.4.C.2.9:	Identify basic offensive and defensive tactics for modified invasion and net activities. **Clarifications:** An example of an offensive tactic in tennis is hitting the ball away from the opponent.
PE.4.L.3.1:	Identify a moderate physical activity.
PE.4.L.3.2:	Identify a vigorous physical activity.
PE.4.L.3.3:	Identify opportunities for involvement in physical activities during the school day.
PE.4.L.3.4:	Identify opportunities for involvement in physical activities after the school day.
PE.4.L.3.5:	Implement at least one lifestyle behavior to increase physical activity.
PE.4.L.3.6:	Discuss the importance of wearing a bicycle helmet.
PE.4.L.4.1:	Identify the muscles being strengthened during the performance of specific activities.
PE.4.L.4.2:	Identify several activities related to each component of physical fitness.
PE.4.L.4.3:	Maintain heart rate within the target heart rate zone for a specified length of time during an aerobic activity.
PE.4.L.4.4:	Identify ways to participate in selected physical activities for the purpose of improving physical fitness.
PE.4.L.4.5:	Identify ways to participate in formal and informal physical fitness assessment.
PE.4.L.4.6:	Identify how specific stretches increase flexibility and reduce the chance of injury.
PE.4.L.4.7:	Understand appropriate serving size.
PE.4.L.4.8:	Explain the principles of physical fitness.
PE.4.L.4.9:	Develop short- and long-term fitness goals.
PE.4.L.4.10:	Describe ways that technology can assist in the pursuit of physical fitness.
PE.4.M.1.1:	Apply movement concepts to the performance of locomotor skills in a variety of movement settings. **Clarifications:** Some examples of movement settings are sequences, dances and games. Some examples of movement concepts are directions, effort and relationships.
PE.4.M.1.2:	Strike a moving object using body parts so that the object travels in the intended direction at the desired height. **Clarifications:** Some examples of activities to apply this are volleying, kicking and punting.
PE.4.M.1.3:	Strike an object continuously using a paddle/racquet demonstrating correct technique of a forehand pattern. **Clarifications:** Some examples of ways to strike continuously are against a wall and a partner-fed toss.
PE.4.M.1.4:	Strike moving and/or stationary objects with long-handled implements using correct technique so the objects travel in the intended direction. **Clarifications:**

	Some examples of long-handled implements are golf clubs, bats and hockey sticks.
PE.4.M.1.5:	Dribble and pass to a moving partner.
PE.4.M.1.6:	Perform a variety of swim strokes. **Clarifications:** Some examples of swim strokes are front crawl, backstroke, elementary back stroke and modified breaststroke.
PE.4.M.1.7:	Move in different directions to catch objects of different sizes and weights thrown by a stationary partner from varying distances.
PE.4.M.1.8:	Throw balls of various sizes and weights to a stationary partner from varying distances using a correct overhand motion.
PE.4.M.1.9:	Perform a teacher-designed sequence, with or without manipulatives, while demonstrating balance, coordination, clear shapes, purposeful movements and smooth transitions. **Clarifications:** Some examples of sequences are rhythm, movement and dance. Some examples of manipulatives are tinikling poles, lummi sticks and jump ropes.
PE.4.M.1.10:	Perform two or more dances accurately. **Clarifications:** Some examples of dances are line, square, contra, folk, step and social.
PE.4.M.1.11:	Perform a self-designed gymnastics sequence consisting of clear beginning and ending balances and three different movement elements with correct technique and smooth transitions. **Clarifications:** Some examples of movement elements are balances, rolling actions, changes in speed/ direction and skills requiring weight on hands.
PE.4.M.1.12:	Run and hurdle a succession of low- to medium-level obstacles.
PE.4.R.5.1:	Discuss the influence of individual differences on participation in physical activities.
PE.4.R.5.2:	List ways to encourage others while refraining from insulting/negative statements.
PE.4.R.5.3:	Demonstrate respect and caring for students with disabilities through verbal and non-verbal encouragement and assistance.
PE.4.R.6.1:	Discuss how physical activity can be a positive opportunity for social and group interaction.
PE.4.R.6.2:	Describe the connection between skill competence and enjoyment of physical activity.
PE.4.R.6.3:	Discuss ways to celebrate one's own physical accomplishments while displaying sportsmanship.
HE.4.B.3.3:	Examine resources from home, school and community that provide valid health information. **Clarifications:** Internet; reputable websites, media; television, radio, brochures, books; professional interview;, and hospitals.
HE.4.C.1.2:	Identify examples of mental/emotional, physical, and social health. **Clarifications:** Expressing appropriate feelings, treating others with respect, and participating in a daily physical activity.
HE.4.C.2.6:	Explain how technology influences personal thoughts, feelings, and health behaviors. **Clarifications:** Cyber-bullying, habitual gaming, violent video games, and seat-belt alarm.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.K12.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
MAFS.4.G.1.3:	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 5015060

Courses > **Grade Group:** Grades PreK to 5 Education
Courses > **Subject:** Physical Education >
SubSubject: General >
Abbreviated Title: PHYSICAL EDUCATION 4
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 4

Physical Education - Grade 5 (#5015070) 2015 - 2022 (current)

Course Standards

Name	Description
PE.5.C.2.1:	Apply purposeful movement to a variety of movement settings to include designing and performing movement routines. **Clarifications:** Some examples of purposeful movement are timing, flow, rhythm, sequencing and transfer of weight.
PE.5.C.2.2:	Design or modify a game incorporating skills, rules and strategies.
PE.5.C.2.3:	Apply feedback gathered from the use of technology to assess and enhance performance. **Clarifications:** Some examples of technology are pedometers, accelerometers, heart-rate monitors, videos, websites and spreadsheets.
PE.5.C.2.4:	Identify the different types of basic water- rescue techniques, using various types of items. **Clarifications:** An example of a water-rescue technique is to reach out to the victim with a pole and pull him/her to safety.
PE.5.C.2.5:	Detect, analyze and correct errors in personal movement patterns.
PE.5.C.2.6:	Compare and contrast skills/sports that use similar movement patterns and concepts. **Clarifications:** Some examples are volleyball and tennis serve, surfing and skate boarding.
PE.5.C.2.7:	Identify basic practice and conditioning principles that enhance performance. **Clarifications:** An example of a conditioning principle that would enhance performance is running with weight resistance to improve speed.
PE.5.C.2.8:	Categorize basic offensive and defensive tactics for modified invasion and net activities. **Clarifications:** An example of an offensive tactic in basketball is keeping your body between the ball and the defender.
PE.5.L.3.1:	Identify a moderate physical activity.
PE.5.L.3.2:	Identify a vigorous physical activity.
PE.5.L.3.3:	Identify opportunities for involvement in physical activities during the school day.
PE.5.L.3.4:	Identify opportunities for involvement in physical activities after the school day.
PE.5.L.3.5:	Formulate a plan to increase the amount of time spent in physical activity.
PE.5.L.3.6:	Discuss lifestyle behaviors that can be made to increase physical activity.
PE.5.L.3.7:	Use technology to enhance regular participation in physical activities.
PE.5.L.3.8:	Discuss the importance of being visible, being predictable and communicating when cycling.
PE.5.L.4.1:	Differentiate between muscular strength and muscular endurance.
PE.5.L.4.2:	Identify activities that develop and maintain each component of physical fitness.
PE.5.L.4.3:	Identify that an increase in heart rate intensity is necessary to enhance cardiorespiratory endurance.
PE.5.L.4.4:	Analyze one's own physical fitness assessment results and develop strategies to enhance performance.
PE.5.L.4.5:	Select proper stretching exercises to increase flexibility and reduce the chance of injury.
PE.5.L.4.6:	Plan a menu for a balanced meal.
PE.5.L.4.7:	Apply the principles of physical fitness to exercise.
PE.5.L.4.8:	Evaluate progress toward short- and long-term fitness goals.
PE.5.L.4.9:	Explain how technology can assist in the pursuit of physical fitness.
PE.5.M.1.1:	Apply locomotor skills in a variety of movement settings, while applying the appropriate movement concepts as the situation demands. **Clarifications:** Some examples of movement settings are sequences, dances and games. Some examples of movement concepts are directions, effort and relationships.
PE.5.M.1.2:	Approach and strike a moving object with body parts so that the object travels in the intended direction at the desired height using correct technique. **Clarifications:** Some examples of activities to apply this are volleying, kicking and punting.
PE.5.M.1.3:	Strike an object continuously with a partner using a paddle/racquet demonstrating correct technique of a forehand pattern.
PE.5.M.1.4:	Strike moving and/or stationary objects with long-handled implements so the objects travel in the intended direction at the desired height using correct technique. **Clarifications:** Some examples of long-handled implements are golf clubs, bats and hockey sticks.
PE.5.M.1.5:	Apply dribbling skills in modified games, focusing on offensive strategies. **Clarifications:** Some examples of offensive strategies are fakes, stopping and starting, changing directions and changing speeds.
PE.5.M.1.6:	Demonstrate proficiency in one or more swim strokes. **Clarifications:**

	Some examples of swim strokes are front crawl, backstroke, breaststroke, sidestroke and butterfly.
PE.5.M.1.7:	Catch a variety of objects while traveling and being defended.
PE.5.M.1.8:	Throw a leading pass overhand to a moving partner using a variety of objects.
PE.5.M.1.9:	Perform a self-designed sequence, with or without manipulatives, while demonstrating balance, coordination, clear shapes, purposeful movements and smooth transitions. **Clarifications:** Some examples of sequences are rhythm, movement and dance. Some examples of manipulatives are tinikling poles, lummi sticks and jump ropes.
PE.5.M.1.10:	Perform a variety of dances accurately. **Clarifications:** Some examples of dances are line, square, contra, folk, step and social.
PE.5.M.1.11:	Perform a self-designed gymnastics sequence consisting of clear beginning and ending balances and four different movement elements with correct technique and smooth transitions. **Clarifications:** Some examples of movement elements are balances, rolling actions, changes in speed/direction and skills requiring weight on hands.
PE.5.R.5.1:	Describe a benefit of working productively with a partner to improve performance.
PE.5.R.5.2:	Describe ways to utilize equipment safely during physical activities.
PE.5.R.5.3:	Describe the influence of individual differences on participation in physical activities.
PE.5.R.6.1:	Describe how participation in physical activity is a source of self-expression and meaning.
PE.5.R.6.2:	Explain the benefits of physical activity.
PE.5.R.6.3:	Explain ways to celebrate one's own physical accomplishments while displaying sportsmanship.
HE.5.B.5.4:	Select a healthy option when making decisions for yourself and/or others. **Clarifications:** Report bullying, resolve conflicts, and use safety equipment.
HE.5.C.1.3:	Explain ways a safe, healthy home and school environment promote personal health. **Clarifications:** Smoke-free environment, clean/orderly environment, behavior rules, and availability of fresh produce.
HE.5.C.1.6:	Recognize how appropriate health care can promote personal health. **Clarifications:** Having immunizations, using medication appropriately, and seeking grief/loss counseling.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
LAFS.K12.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
MAFS.5.G.2.3:	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*

General Course Information and Notes

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 5015070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Physical Education > **SubSubject:** General >
Abbreviated Title: PHYSICAL EDUCATION 5
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): 5

District Head Start (#5100520) 2016 - 2022 (current)

General Course Information and Notes

QUALIFICATIONS

For Child Development Association (CDA) or CDA equivalencies, see Section 1: PreKindergarten Basic Definitions. If program serves children with disabilities as an inclusion setting, see Section 1: PreKindergarten Exceptional.

GENERAL INFORMATION

Course Number: 5100520

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >

Abbreviated Title: DIST HEAD START

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): PreK

Educator Certifications

Early Childhood Education (Early Childhood)
Preschool Education (Birth through Age 4)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)

District Title 1 Prekindergarten (#5100530) 2015 - 2022 (current)

General Course Information and Notes

QUALIFICATIONS

For Child Development Associate (CDA) or CDA equivalent, see Section 1: PreKindergarten Basic Definitions. If program serves children with disabilities as an inclusive setting, see Section 1: PreKindergarten Exceptional.

GENERAL INFORMATION

Course Number: 5100530

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >

Abbreviated Title: DIST TITLE 1 PK

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): PreK

Educator Certifications

Early Childhood Education (Early Childhood)
Preschool Education (Birth through Age 4)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)

Prekindergarten Other (#5100560) 2015 - 2022 (current)

General Course Information and Notes

QUALIFICATIONS

For Child Development Associate (CDA) or CDA equivalent, see Section 1: PreKindergarten Basic Definitions. If program serves children with disabilities as an inclusive setting, see Section 1: PreKindergarten Exceptional.

GENERAL INFORMATION

Course Number: 5100560

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >

Abbreviated Title: PK OTHER

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): PreK

Educator Certifications

Early Childhood Education (Early Childhood)
Preschool Education (Birth through Age 4)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)

School Readiness (#5100570) 2015 - 2022 (current)

General Course Information and Notes

QUALIFICATIONS

Child Development Associate (or equivalent) required.

For Child Development Associate (CDA) or CDA equivalent, see Section 1: PreKindergarten Basic Definitions. If program serves children with disabilities as an inclusive setting, see Section 1: PreKindergarten Exceptional.

GENERAL INFORMATION

Course Number: 5100570

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >

Abbreviated Title: SCHOOL READINESS

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): PreK

Voluntary Prekindergarten Education- school year program (#5100580) 2015 - 2022 (current)

General Course Information and Notes

QUALIFICATIONS

Child Development Associate (or equivalent) OR bachelors degree (or higher) in elementary education is required.

For Child Development Associate (CDA) or CDA equivalent, see Section 1: PreKindergarten Basic Definitions. If program serves children with disabilities as an inclusive setting, see Section 1: PreKindergarten Exceptional.

GENERAL INFORMATION

Course Number: 5100580

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >

Abbreviated Title: VPK-SCH YEAR PROG

Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): PreK

Voluntary Prekindergarten Education- summer program (#5100590) 2015 - 2022 (current)

General Course Information and Notes

QUALIFICATIONS

Child Development Associate (or equivalent) OR bachelors degree (or higher) in elementary education is required.

For Child Development Associate (CDA) or CDA equivalent, see Section 1: PreKindergarten Basic Definitions. If program serves children with disabilities as an inclusive setting, see Section 1: PreKindergarten Exceptional.

GENERAL INFORMATION

Course Number: 5100590

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >
Abbreviated Title: VPK-SUMMER PROG
Course Length: Year (Y)

Course Status: Draft - Course Pending Approval

Grade Level(s): PreK

CARES-funded Rising Kindergarten Program (#5100600) 2020 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

Services offered by the Rising Summer Program are intended to fill gaps created by the loss of the Voluntary Pre-Kindergarten (VPK) instructional services due to a national health emergency (COVID-19). Instruction is to be based on the Florida Early Learning and Developmental Standards (flbt5.floridaearlylearning.com/docs/OEL-VPK154yo.pdf).

Program delivery is contingent upon a Memorandum of Understanding (MOU) currently being developed by the Office of Early Learning (floridaearlylearning.com). Each participating school district should have a signed MOU with their local early learning coalition in order to qualify for the program and associated CARES funding.

At this time, funding for this course is available for the 2020-2021 school year through the CARES Act. Please note that this course does not qualify for Florida Education Finance Program (FEFP).

Questions can be directed to the Office of Early Learning at 866-447-1159.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

- Child Development Associate (CSA) or CDA equivalent.
- Bachelor degree or higher in any of the following areas (see Section 1, PreK Basic Definition).
- Bachelor degree or higher in elementary education (see Section 1, PreK Basic Definition).
- Associates or higher degree in child development.
- Associates or higher degree in an unrelated field (see Section 1, PreK Basic Definitions).
- If program serves children with disabilities as an inclusive setting, see Section 1, PreK Exceptional.

See floridaearlylearning.com/vpk/vpk-providers/becoming-a-vpk-provider/vpk-instructor-qualifications for additional information on qualifications.

GENERAL INFORMATION

Course Number: 5100600

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >

Abbreviated Title: CARES RISING KINDER

Course Length: Year (Y)

Course Type: Non-fundable Course

Course Status: Course Approved

Grade Level(s): PreK

Educator Certifications

Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)
Early Childhood Education (Early Childhood)
Preschool Education (Birth through Age 4)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)
Exceptional Student Education (Elementary and Secondary Grades K-12)

CARES-funded Kindergarten Supplemental Academic Services (#5100610) 2020 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

Services offered by the Rising Summer Program are intended to fill gaps created by the loss of the Voluntary Pre-Kindergarten (VPK) instructional services due to a national health emergency (COVID-19). Instruction is to be based on the Florida Early Learning and Developmental Standards (flbt5.floridaearlylearning.com/docs/OEL-VPK154yo.pdf).

Program delivery is contingent upon a Memorandum of Understanding (MOU) currently being developed by the Office of Early Learning (floridaearlylearning.com). Each participating school district should have a signed MOU with their local early learning coalition in order to qualify for the program and associated CARES funding.

At this time, funding for this course is available for the 2020-2021 school year through the CARES Act. Please note that this course does not qualify for Florida Education Finance Program (FEFP).

Questions can be directed to the Office of Early Learning at 866-447-1159.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

- Child Development Associate (CSA) or CDA equivalent.
- Bachelor degree or higher in any of the following areas (see Section 1, PreK Basic Definition).
- Bachelor degree or higher in elementary education (see Section 1, PreK Basic Definition).
- Associates or higher degree in child development.
- Associates or higher degree in an unrelated field (see Section 1, PreK Basic Definitions).
- If program serves children with disabilities as an inclusive setting, see Section 1, PreK Exceptional.

See floridaearlylearning.com/vpk/vpk-providers/becoming-a-vpk-provider/vpk-instructor-qualifications for additional information on qualifications.

GENERAL INFORMATION

Course Number: 5100610

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Prekindergarten > **SubSubject:** General >

Abbreviated Title: CARES KINDER SUPPLE

Course Length: Year (Y)

Course Type: Non-fundable Course

Course Status: Course Approved

Grade Level(s): PreK

Educator Certifications

Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)
Early Childhood Education (Early Childhood)
Preschool Education (Birth through Age 4)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)
Exceptional Student Education (Elementary and Secondary Grades K-12)

M/J Research 1 (#1700000) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.6.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Ensure that pronouns are in the proper case (subjective, objective, possessive). b. Use intensive pronouns (e.g., *myself, ourselves*). c. Recognize and correct inappropriate shifts in pronoun number and person. d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents). e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.
LAFS.6.L.1.2:	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements. b. Spell correctly.
LAFS.6.RI.3.8:	Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.RI.3.9:	Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).
LAFS.6.RL.1.1:	Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.6.RL.1.2:	Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.6.W.1.1:	Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s) and organize the reasons and evidence clearly. b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from the argument presented. **Standard Relation to Course: Supporting**
LAFS.6.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from the information or explanation presented. **Standard Relation to Course: Supporting**
LAFS.6.W.3.8:	Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
LAFS.6.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 6 Reading standards to literature (e.g., "Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics"). b. Apply grade 6 Reading standards to literary nonfiction (e.g., "Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not").
LAFS.6.W.4.10:	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They

MAFS.K12.MP.1.1:	analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
SS.6.W.1.4:	Describe the methods of historical inquiry and how history relates to the other social sciences. **Clarifications:** Examples are archaeology, geography, political science, economics.
SS.6.W.1.5:	Describe the roles of historians and recognize varying historical interpretations (historiography).
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop basic knowledge and skills in the research process with emphasis on determining and refining research questions.

The content should include, but not be limited to, the following:
-research process
-research topics
-research questions and hypotheses
-definition, analysis, and evaluation of research questions
-review of literature and other resources
-formulation of hypotheses
-report formats, styles, and content
-directed investigations
-critical analysis of research
-a major research project, preferably cross-disciplinary

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700000

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J RESEARCH 1

Course Length: Year (Y)

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Research 2 (#1700010) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.7.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of phrases and clauses in general and their function in specific sentences. b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.
LAFS.7.RI.3.8:	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.
LAFS.7.RI.3.9:	Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.
LAFS.7.RL.1.1:	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.7.RL.1.2:	Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views. **Standard Relation to Course: Supporting**
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented. **Standard Relation to Course: Supporting**
LAFS.7.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.7.W.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.7.W.2.6:	Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.
LAFS.7.W.3.7:	Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
LAFS.7.W.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.7.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 7 Reading standards to literature (e.g., "Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history"). b. Apply grade 7 Reading standards to literary nonfiction (e.g. "Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims"). **Standard Relation to Course: Supporting**
LAFS.7.W.4.10:	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information

	they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop proficient knowledge and skills in the research process with emphasis on appropriate research design.

The content should include, but not be limited to, the following:

- research process
- experimental, descriptive, and historical research
- legal and ethical issues in research-research questions and hypotheses
- review of literature and other resources-report formats, styles, and content-investigations
- critical analysis of research
- a major research project, preferably cross-disciplinary

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: M/J RESEARCH 2
Course Length: Year (Y)
Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Research 3 (#1700020) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.68.RH.1.3:	Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).
LAFS.68.RH.3.7:	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. **Standard Relation to Course: Supporting**
LAFS.8.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. b. Form and use verbs in the active and passive voice. c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. d. Recognize and correct inappropriate shifts in verb voice and mood. **Standard Relation to Course: Supporting**
LAFS.8.L.1.2:	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break. b. Use an ellipsis to indicate an omission. c. Spell correctly. **Standard Relation to Course: Supporting**
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. **Standard Relation to Course: Supporting**
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
LAFS.8.W.1.1:	Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. **Standard Relation to Course: Supporting**
LAFS.8.W.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.8.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 8 Reading standards to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new").

	b. Apply grade 8 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").
LAFS.8.W.4.10:	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SS.8.A.1.1:	Provide supporting details for an answer from text, interview for oral history, check validity of information from research/text, and identify strong vs. weak arguments. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigage, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf.
SS.8.A.1.4:	Differentiate fact from opinion, utilize appropriate historical research and fiction/nonfiction support materials.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop advanced knowledge and skills in the research process with emphasis on data collection and analysis.

The content should include, but not be limited to, the following:

- research process
- research questions and hypotheses
- review of literature and other resources
- legal and ethical issues in research
- research design
- data collection, analysis, and statistics
- interpretation of results
- application of findings
- report formats, styles, and content
- investigations
- critical analysis of research
- a major research project, preferably cross-curricular

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J RESEARCH 3

Course Length: Year (Y)

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Career Research and Decision Making (#1700060) 2019 - 2022 (current)

Course Standards

Name	Description
LAFS.6.RI.1.1:	Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.6.RI.1.2:	Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
LAFS.6.RI.2.5:	Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.
LAFS.6.RI.2.6:	Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.
LAFS.6.RI.3.7:	Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
LAFS.6.RI.3.8:	Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.RI.3.9:	Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.2.5:	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
LAFS.6.W.1.1:	Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s) and organize the reasons and evidence clearly. b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from the argument presented.
LAFS.6.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from the information or explanation presented.
LAFS.6.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.6.W.2.6:	Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.
LAFS.6.W.3.7:	Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.
LAFS.6.W.3.8:	Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
LAFS.68.RH.2.5:	Describe how a text presents information (e.g., sequentially, comparatively, causally).
LAFS.68.RH.2.6:	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
LAFS.68.RH.3.7:	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style.

	e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.7.RI.1.1:	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.7.RI.1.2:	Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.
LAFS.7.RI.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.
LAFS.7.RI.2.6:	Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.
LAFS.7.RI.3.8:	Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.
LAFS.7.RI.3.9:	Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
LAFS.7.W.1.1:	Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.7.W.1.2:	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.7.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.7.W.2.6:	Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.
LAFS.7.W.3.7:	Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
LAFS.7.W.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.8.RI.1.1:	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.8.RI.1.2:	Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.
LAFS.8.RI.2.5:	Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.
LAFS.8.RI.2.6:	Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.
LAFS.8.RI.3.7:	Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.
LAFS.8.RI.3.8:	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.
LAFS.8.RI.3.9:	Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
LAFS.8.W.1.1:	Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis

LAFS.8.W.1.2:	of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.8.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.8.W.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.
LAFS.8.W.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.8.W.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
HE.6.B.4.3:	Demonstrate effective conflict-management and/or resolution strategies. **Clarifications:** Talk to an adult, anger management, and conflict mediation.
HE.6.B.5.2:	Choose healthy alternatives over unhealthy alternatives when making a decision. **Clarifications:** Not smoking, limiting sedentary activity, and practicing good character.
HE.7.B.4.3:	Articulate the possible causes of conflict among youth in schools and communities. **Clarifications:** Ethnic prejudice and diversity, substance use, group dynamics, relationship issues/dating violence, gossip/rumors, and sexual identity.
HE.7.B.5.2:	Select healthy alternatives over unhealthy alternatives when making a decision. **Clarifications:** Proper prescription-drug use, using safety equipment, Internet safety, and managing stress.
HE.8.B.4.3:	Examine the possible causes of conflict among youth in schools and communities. **Clarifications:** Relationships, territory, jealousy, and gossip/rumors.
HE.8.B.5.2:	Categorize healthy and unhealthy alternatives to health-related issues or problems. **Clarifications:** (Alcohol consumption, sleep requirements, physical activity, and time management.)
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to provide students with the opportunity to gain the knowledge and skills necessary to become health literate and practice responsible behaviors to promote healthy living. This comprehensive course focuses on making wise personal decisions and respecting and promoting the health of others.

The content should include, but is not limited to:

- Mental and emotional health (personal health care, screenings, counseling, negotiation skills, bullying, grief, loss and depression)
- Prevention and control of disease (non-communicable, sexually transmitted diseases, STDs, and HIV/AIDS)
- Consumer health (risk reduction behaviors, policies/laws, medical resources, and conflict resolution)
- Family life (risk reduction behaviors, cultures, daily routines and rules)
- Personal health (adolescence, communication skills, wellness, coping skills, social relationships and reproductive health)
- Nutrition (weight management, fitness plan, eating disorders, and BMI)
- Internet safety (security, threats, media, cyber-bullying parental controls, and monitoring)
- Injury prevention and safety (rules, bullying, water safety, weapons safety, and first aid/CPR/AED)
- Substance use and abuse (harmful effects of alcohol, tobacco, other drugs, and over-the-counter drugs)
- Community health (local health organizations, technology, resources, and services)
- Environmental health (adverse health effects, chemicals toxins and pollutants)
- Consumer health (advertising, media influence, products and services)
- Teen dating violence (dating, abuse and violence)

Instructional Practices: Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Any student whose parent makes written request to the school principal shall be exempted from the teaching of reproductive health or any disease, including HIV/AIDS, its symptoms, development, and treatment. A student so exempted may not be penalized by reason of that exemption.

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: M/J CAREER RES & DEC
Course Length: Semester (S)
Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J Critical Thinking, Problem Solving, and Learning Strategies (#1700100) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.7.RI.1.1:	Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.7.RI.2.6:	Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.
LAFS.7.RI.3.7:	Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).
LAFS.7.RL.2.4:	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.W.1.1:	Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. **Standard Relation to Course: Supporting**
LAFS.7.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.7.W.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop learning strategies, critical-thinking skills, and problem-solving skills to enhance their performance in academic and nonacademic endeavors.

The content should include, but not be limited to, the following:

- strategies for acquiring, storing, and retrieving information
- strategies for oral and written communication
- critical-thinking operations, processes, and enabling skills
- problem-solving skills and strategies
- strategies for linking new information with prior knowledge

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: M/J CRIT THINK
Course Length: Year (Y)
Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

M/J AVID 6th (#1700110) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

Some students may have previous experience with AVID Elementary, and some students will be experiencing AVID for the first time. The 6th grade AVID elective course is an introduction to the AVID philosophy. Students will develop an awareness of the values accompanying academic goals and success. The course will focus on building students' self-confidence and communication skills in working with peers and adults. Students will be exposed to reading strategies that will assist them in building vocabulary and understanding a variety of texts and will also focus on pre-writing techniques, summary writing, and structural components of note-taking. Students will increase college and career awareness through guest-speaker presentations, field-trip opportunities, and research.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (6.SA)

Student Empowerment

1. (a) Determine personal interest for extracurricular and community service activities within the school and community
   (b) Gain awareness of extracurricular and community service activities within the school and community
2. Evaluate the impact of decisions on others
3. Explore the importance of healthy, balanced lifestyles, including aspects such as good sleeping, eating, and exercise habits
4. Establish understanding of concepts and content-specific vocabulary related to personal finance
5. (a) Identify the characteristics of positive, health relationships
   (b) Explore individual peer relationships and identify those that are positive and healthy
6. Gain awareness of motivators that positively impact performance
7. Self-monitor to diagnose areas of need (e.g., academic, personal, social-emotional)
8. (a) Gain awareness of skills that increase mental flexibility
   (b) Explore the relationship between grit and perseverance

9. (a) Identify strategies and skills that promote self-awareness
   (b) Identify individual strengths and areas of challenge related to academic skills and performance
10. Determine key points from learning experiences

Leadership of Others

1. Identify traits connected to personal integrity and ethics
2. (a) Identify leadership opportunities and positions in the school and community
   (b) Determine formal and informal leadership opportunities that could be pursued
3. (a) Select tools to analyze a conflict and identify a positive solution
   (b) Classify passive, assertive, and aggressive statements

RIGOROUS ACADEMIC PREPAREDNESS (6.AP)

Writing

1. (a) Develop writing skills related to argumentative and narrative modes of writing
   (b) Plan and structure writing based on the mode (descriptive, narrative, expository, argumentative)
   (c) Draft initial writing
2. Analyze a writing task by identifying key vocabulary and audience
3. Gather and analyze feedback from peers and instructors
4. (a) Edit drafts for grammar, mechanics, and spelling
   (b) Analyze the organizational structure of writing
5. Publish writing to a small group audience within the classroom, such as a formal written paper
6. (a) Take notes with an emphasis on identifying and recording the note-taking objective and /or Essential Question
   (b) Take notes with an emphasis on setting up notes, including all required components
7. Summarize by pulling together the most important information related to the objective and/or Essential Question

Inquiry

1. Create questions based on Costa's Levels of Thinking
2. Identify misunderstood concepts or problems
3. Determine the steps/process that led to a solution
4. Reflect on learning to make connections between new learning and previous learning
5. Reflect on learning strategies that were employed and whether those strategies were effective
6. (a) Identify processes that are used
   (b) Reflect on a process that was used and whether that process was effective
7. Analyze a research prompt
8. (a) Locate sources that are relevant to the topic and support the purpose of the research assignment
   (b) Distinguish between primary and secondary sources
9. Plan and structure the writing based on the research prompt
10. Integrate quotations and references to texts, using proper citations
11. Publish research to a small group audience within the classroom, such as a formal written paper

Collaboration

1. Establish norms and expectations around shared responsibility among group members
2. Establish norms and expectations around appreciating diversity among group members
3. Develop a foundational familiarity and comfort with classmates
4. Identify respectful and disrespectful actions of self and others
5. Check group members' level of understanding
6. Utilize technology to collaborate with classmates
7. (a) Apply basic understanding of effective public speaking
   (b) Incorporate visual aids and/or technology when appropriate
8. Describe the characteristics of effective listening, such as eye contact and mirroring
9. Monitor word choice when speaking
10. Identify formal and informal language registers

Organization

1. (a) Begin implementing organizational tools (e.g., binders/eBinders, portfolios, or digital folders) that support academic success
   (b) Create an activity log or tracking system for community extracurricular activities and hours
2. (a) Explore a variety of organizational formats for calendaring/planning
   (b) Determine how to use time effectively
   (c) Assess complex assignments and break them into smaller tasks
3. Set personal, academic and career goals
4. Monitor progress toward goals
5. Utilize visual frameworks to organize information

Reading

1. Determine the characteristics of a high-quality text in relation to the reading purpose
2. (a) Preview text features
   (b) Identify prior knowledge that may be relevant to the reading
3. Assess knowledge of academic and content-specific vocabulary words
4. (a) Mark the text to accomplish the reading purpose
   (b) Identify the key components of a text related to the reading purpose

5. Extend beyond the text by applying key learning

OPPORTUNITY KNOWLEDGE (6.OK)

Advancing College Preparedness

1. Identify personal interests and skills related to future college aspirations, such as through an interest inventory
2. (a) Know how to determine a GPA
   (b) Develop familiarity with college terminology
   (c) Classify the various types of college
3. Understand scholarships and the role they play in financing college
4. Articulate the importance of long-term academic plans as a part of goal setting an achievement
5. (a) Identify what is meant by match schools, reach schools, and safety schools in order to determine the best academic fit during the selection process
   (b) Understand the different college entrance exams: PSAT, PreACT, SAT, ACT

Building Career Knowledge

1. Identify personal interests and skills related to future career aspirations
2. (a) Increase familiarity with career terminology
   (b) Distinguish between jobs, careers, and career fields
3. (a) Establish initial knowledge around the characteristics that contribute to academic, social, and financial fit
   (b) Explore the net cost of attending college to inform decisions and budget plans
4. Request assistance in selecting career elective courses and pathways that match interest and goals

GENERAL NOTES

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree. Teachers must receive training from AVID Center to teach this course.

GENERAL INFORMATION

Course Number: 1700110

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: M/J AVID 6TH
Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6

M/J AVID 6th & Career Planning (#1700115) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

Some students may have previous experience with AVID Elementary, and some students will be experiencing AVID for the first time. The 6th grade AVID elective course is an introduction to the AVID philosophy. Students will develop an awareness of the values accompanying academic goals and success. The course will focus on building students' self-confidence and communication skills in working with peers and adults. Students will be exposed to reading strategies that will assist them in building vocabulary and understanding a variety of texts and will also focus on pre-writing techniques, summary writing, and structural components of note-taking. Students will increase college and career awareness through guest-speaker presentations, field-trip opportunities, and research.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (6.SA)

Student Empowerment

1. (a) Determine personal interest for extracurricular and community service activities within the school and community
   (b) Gain awareness of extracurricular and community service activities within the school and community
2. Evaluate the impact of decisions on others
3. Explore the importance of healthy, balanced lifestyles, including aspects such as good sleeping, eating, and exercise habits
4. Establish understanding of concepts and content-specific vocabulary related to personal finance
5. (a) Identify the characteristics of positive, health relationships
   (b) Explore individual peer relationships and identify those that are positive and healthy
6. Gain awareness of motivators that positively impact performance
7. Self-monitor to diagnose areas of need (e.g., academic, personal, social-emotional)
8. (a) Gain awareness of skills that increase mental flexibility
   (b) Explore the relationship between grit and perseverance

9. (a) Identify strategies and skills that promote self-awareness
   (b) Identify individual strengths and areas of challenge related to academic skills and performance
10. Determine key points from learning experiences

Leadership of Others

1. Identify traits connected to personal integrity and ethics
2. (a) Identify leadership opportunities and positions in the school and community
   (b) Determine formal and informal leadership opportunities that could be pursued
3. (a) Select tools to analyze a conflict and identify a positive solution
   (b) Classify passive, assertive, and aggressive statements

RIGOROUS ACADEMIC PREPAREDNESS (6.AP)

Writing

1. (a) Develop writing skills related to argumentative and narrative modes of writing
   (b) Plan and structure writing based on the mode (descriptive, narrative, expository, argumentative)
   (c) Draft initial writing
2. Analyze a writing task by identifying key vocabulary and audience
3. Gather and analyze feedback from peers and instructors
4. (a) Edit drafts for grammar, mechanics, and spelling
   (b) Analyze the organizational structure of writing
5. Publish writing to a small group audience within the classroom, such as a formal written paper
6. (a) Take notes with an emphasis on identifying and recording the note-taking objective and /or Essential Question
   (b) Take notes with an emphasis on setting up notes, including all required components
7. Summarize by pulling together the most important information related to the objective and/or Essential Question

Inquiry

1. Create questions based on Costa's Levels of Thinking
2. Identify misunderstood concepts or problems
3. Determine the steps/process that led to a solution
4. Reflect on learning to make connections between new learning and previous learning
5. Reflect on learning strategies that were employed and whether those strategies were effective
6. (a) Identify processes that are used
   (b) Reflect on a process that was used and whether that process was effective
7. Analyze a research prompt
8. (a) Locate sources that are relevant to the topic and support the purpose of the research assignment
   (b) Distinguish between primary and secondary sources
9. Plan and structure the writing based on the research prompt
10. Integrate quotations and references to texts, using proper citations
11. Publish research to a small group audience within the classroom, such as a formal written paper

Collaboration

1. Establish norms and expectations around shared responsibility among group members
2. Establish norms and expectations around appreciating diversity among group members
3. Develop a foundational familiarity and comfort with classmates
4. Identify respectful and disrespectful actions of self and others
5. Check group members' level of understanding
6. Utilize technology to collaborate with classmates
7. (a) Apply basic understanding of effective public speaking
   (b) Incorporate visual aids and/or technology when appropriate
8. Describe the characteristics of effective listening, such as eye contact and mirroring
9. Monitor word choice when speaking
10. Identify formal and informal language registers

Organization

1. (a) Begin implementing organizational tools (e.g., binders/eBinders, portfolios, or digital folders) that support academic success
   (b) Create an activity log or tracking system for community extracurricular activities and hours
2. (a) Explore a variety of organizational formats for calendaring/planning
   (b) Determine how to use time effectively
   (c) Assess complex assignments and break them into smaller tasks
3. Set personal, academic and career goals
4. Monitor progress toward goals
5. Utilize visual frameworks to organize information

Reading

1. Determine the characteristics of a high-quality text in relation to the reading purpose
2. (a) Preview text features
   (b) Identify prior knowledge that may be relevant to the reading
3. Assess knowledge of academic and content-specific vocabulary words
4. (a) Mark the text to accomplish the reading purpose
   (b) Identify the key components of a text related to the reading purpose

5. Extend beyond the text by applying key learning

OPPORTUNITY KNOWLEDGE (6.OK)

Advancing College Preparedness

1. Identify personal interests and skills related to future college aspirations, such as through an interest inventory
2. (a) Know how to determine a GPA
   (b) Develop familiarity with college terminology
   (c) Classify the various types of college
3. Understand scholarships and the role they play in financing college
4. Articulate the importance of long-term academic plans as a part of goal setting an achievement
5. (a) Identify what is meant by match schools, reach schools, and safety schools in order to determine the best academic fit during the selection process
   (b) Understand the different college entrance exams: PSAT, PreACT, SAT, ACT

Building Career Knowledge

1. Identify personal interests and skills related to future career aspirations
2. (a) Increase familiarity with career terminology
   (b) Distinguish between jobs, careers, and career fields
3. (a) Establish initial knowledge around the characteristics that contribute to academic, social, and financial fit
   (b) Explore the net cost of attending college to inform decisions and budget plans
4. Request assistance in selecting career elective courses and pathways that match interest and goals

GENERAL NOTES

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree. Teachers must receive training from AVID Center to teach this course.

GENERAL INFORMATION

Course Number: 1700115

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J AVID 6TH & C/P

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 6

M/J AVID 7th (#1700120) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

The 7th grade AVID elective course builds upon the foundational components of the AVID philosophy. Students will refine short- and long-term goals and, as a result, being to understand the value in taking charge of their actions. They will start working on intrapersonal and interpersonal skills as well as formal and informal speech. Students will complete self-evaluations and peer evaluations related to reading, writing, organization, and speaking. In broadening their writing practice, students will begin considering audience, purpose, and form in their writing. Students will take an active role in their learning, understanding the roles of all members in assignments and collaborative lessons. They will expand their knowledge base regarding note-taking in relation to studying and test preparation. Students will be exposed to various field trips, guest speakers, and research to increase their knowledge of college and career options.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (7.SA)

Student Empowerment

1. Explore and experience extracurricular and community service activities within the school and community
2. Evaluate the impact of decisions on the environment
3. (a) Identify activities that assist with self-care and healthy habits
   (b) Identify areas that need attention and develop goals to address those areas
4. Increase awareness and apply basic concepts of budgeting, spending, and making responsible financial decisions
5. Develop a support network that includes peers and adults for academic and future success
6. Explore how individual motivators and self-monitoring of motivation impact academic performance
7. Seek help related to areas of need
8. Determine personal levels of grit and perseverance in relation to growth mindset
9. Establish self-awareness strategies and skills, including SLANT (Sit with proper posture, Lean forward and listen, Ask pertinent questions, Nod your head "yes" or "no," Talk

with your teachers)
10. Make connections between key learning points and new contexts

Leadership of Others

1. Identify traits connected to responsibility, integrity, and ethical interactions with others
2. Pursue leadership opportunities across the school
3. (a) Identify personal conflict-management style
   (b) Transform passive and aggressive statements into constructive, assertive statements

RIGOROUS ACADEMIC PREPAREDNESS (7.AP)

Writing

1. (a) Develop writing skills related to descriptive and expository modes of writing
   (b) Generate multiple ideas that support, explain, or enhance the writing topic or theme
   (c) Compose first drafts using ideas and information gathered during pre-writing
2. Analyze a writing task to determine the purpose, format/style, and audience
3. Write multiple drafts with increasing depth based on feedback and observations
4. Analyze and edit sentence structure to create interest and complexity
5. Publish writing to entire class, such as an oral presentation
6. (a) Take notes with an emphasis on recording main ideas and important information
   (b) Take notes with an emphasis on condensing information by using abbreviations/symbols/paraphrasing
7. Summarize by pulling together the most important information and personal connections related to the objective and/or Essential Question

Inquiry

1. Develop inquiry skills through focused observation and analysis
2. Identify the specific point of confusion related to a misunderstood concept or problem
3. Determine whether similar problems could be solved using the same steps/process
4. Reflect on learning to make connections between new learning and previous experiences
5. Reflect on learning strategies that were employed, whether those strategies were effective, and how methods could be adjusted in the future
6. Reflect on a process that was used, whether that process was effective, and how methods could be adjusted in the future
7. Brainstorm ideas for research topics to address a research prompt
8. Determine the relevance, validity, and reliability of information found in sources
9. Organize information, sources, and data that support the research prompt
10. Integrate quotations to support claims, citing locations and references to texts
11. Publish research to entire class, such as an oral presentation

Collaboration

1. Hold self and peers accountable for following group norms about shared responsibility
2. Summarize points of agreement and disagreement from varying perspectives
3. Deepen relational capacity with classmates through effective conflict management
4. Establish norms and expectations around respectful interactions among group members
5. Ask clarifying questions to group members to facilitate understanding
6. Utilize technology to collaborate with classmates and community members
7. (a) Distinguish between effective and ineffective language during interactions
   (b) Refine usage of nonverbal communication when speaking, including body language and eye contact
8. Demonstrate active listening skills during academic conversations
9. Utilize academic vocabulary when communicating
10. Speak effectively before small groups of peers

Organization

1. (a) Refine usage of organizational tools (e.g., binders/eBinders, portfolios, or digital folders) and systems that support academic success
   (b) Maintain an activity log or tracking system for community extracurricular activities and hours
2. (a) Utilize an organizational tool to record obligations and constraints on time
   (b) Demonstrate the process of backward mapping
3. Identify the steps necessary to accomplish goals
4. Identify reasons for why progress is or isn't being made toward accomplishing goals
5. Apply visual frameworks to organize language and comprehend key concepts

Reading

1. Assess whether a text is appropriate according to the reading purpose
2. (a) Make predictions about the text using text features
   (b) Assess relevant prior knowledge and identify gaps
3. Utilize tools to deepen understanding of vocabulary
4. Mark the text to accomplish the reading purpose through the lens of a content expert
   (b) Identify the key components of a text related to the reading purpose
5. Extend beyond the text by evaluating and synthesizing key learning

OPPORTUNITY KNOWLEDGE (7.OK)

Advancing College Preparedness

1. Define key personal attributes for academic, social, and financial fit related to college selection

2. (a) Explore the significance of GPA at different stages of the academic journey
   (b) Explore college options and terminology
3. Evaluate personal level of readiness for scholarship eligibility
4. (a) Reflect on how academic plans and course completion support progress toward desired major
   (b) Determine which courses or opportunities align with college goals and plans
   (c) Explore campus-, district-, or community-based opportunities to earn college credit in high school (dual credit, online learning, etc.)
5. (a) Explore match schools, reach schools, and safety schools in order to determine the best academic fit during the selection process
   (b) Prepare for college entrance exams

Building Career Knowledge

1. Define key personal attributes for academic, social, and financial fit related to career selection
2. Explore career fields and career pathways, including what resources and opportunities are available locally
3. Investigate best-fit career fields based on academic, social, and financial fit
4. Reflect on how academic plans and course completion support progress toward desired career field

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. M/J Advancement Via Individual Determination 7 (M/J AVID 7) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in M/J AVID 8. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700120

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: M/J AVID 7TH
Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 7

M/J AVID 7th & Career Planning (#1700125) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

The 7th grade AVID elective course builds upon the foundational components of the AVID philosophy. Students will refine short- and long-term goals and, as a result, being to understand the value in taking charge of their actions. They will start working on intrapersonal and interpersonal skills as well as formal and informal speech. Students will complete self-evaluations and peer evaluations related to reading, writing, organization, and speaking. In broadening their writing practice, students will begin considering audience, purpose, and form in their writing. Students will take an active role in their learning, understanding the roles of all members in assignments and collaborative lessons. They will expand their knowledge base regarding note-taking in relation to studying and test preparation. Students will be exposed to various field trips, guest speakers, and research to increase their knowledge of college and career options.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (7.SA)

Student Empowerment

1. Explore and experience extracurricular and community service activities within the school and community
2. Evaluate the impact of decisions on the environment
3. (a) Identify activities that assist with self-care and healthy habits
   (b) Identify areas that need attention and develop goals to address those areas
4. Increase awareness and apply basic concepts of budgeting, spending, and making responsible financial decisions
5. Develop a support network that includes peers and adults for academic and future success
6. Explore how individual motivators and self-monitoring of motivation impact academic performance
7. Seek help related to areas of need
8. Determine personal levels of grit and perseverance in relation to growth mindset

9. Establish self-awareness strategies and skills, including SLANT (Sit with proper posture, Lean forward and listen, Ask pertinent questions, Nod your head "yes" or "no," Talk with your teachers)
10. Make connections between key learning points and new contexts

Leadership of Others

1. Identify traits connected to responsibility, integrity, and ethical interactions with others
2. Pursue leadership opportunities across the school
3. (a) Identify personal conflict-management style
   (b) Transform passive and aggressive statements into constructive, assertive statements

RIGOROUS ACADEMIC PREPAREDNESS (7.AP)

Writing

1. (a) Develop writing skills related to descriptive and expository modes of writing
   (b) Generate multiple ideas that support, explain, or enhance the writing topic or theme
   (c) Compose first drafts using ideas and information gathered during pre-writing
2. Analyze a writing task to determine the purpose, format/style, and audience
3. Write multiple drafts with increasing depth based on feedback and observations
4. Analyze and edit sentence structure to create interest and complexity
5. Publish writing to entire class, such as an oral presentation
6. (a) Take notes with an emphasis on recording main ideas and important information
   (b) Take notes with an emphasis on condensing information by using abbreviations/symbols/paraphrasing
7. Summarize by pulling together the most important information and personal connections related to the objective and/or Essential Question

Inquiry

1. Develop inquiry skills through focused observation and analysis
2. Identify the specific point of confusion related to a misunderstood concept or problem
3. Determine whether similar problems could be solved using the same steps/process
4. Reflect on learning to make connections between new learning and previous experiences
5. Reflect on learning strategies that were employed, whether those strategies were effective, and how methods could be adjusted in the future
6. Reflect on a process that was used, whether that process was effective, and how methods could be adjusted in the future
7. Brainstorm ideas for research topics to address a research prompt
8. Determine the relevance, validity, and reliability of information found in sources
9. Organize information, sources, and data that support the research prompt
10. Integrate quotations to support claims, citing locations and references to texts
11. Publish research to entire class, such as an oral presentation

Collaboration

1. Hold self and peers accountable for following group norms about shared responsibility
2. Summarize points of agreement and disagreement from varying perspectives
3. Deepen relational capacity with classmates through effective conflict management
4. Establish norms and expectations around respectful interactions among group members
5. Ask clarifying questions to group members to facilitate understanding
6. Utilize technology to collaborate with classmates and community members
7. (a) Distinguish between effective and ineffective language during interactions
   (b) Refine usage of nonverbal communication when speaking, including body language and eye contact
8. Demonstrate active listening skills during academic conversations
9. Utilize academic vocabulary when communicating
10. Speak effectively before small groups of peers

Organization

1. (a) Refine usage of organizational tools (e.g., binders/eBinders, portfolios, or digital folders) and systems that support academic success
   (b) Maintain an activity log or tracking system for community extracurricular activities and hours
2. (a) Utilize an organizational tool to record obligations and constraints on time
   (b) Demonstrate the process of backward mapping
3. Identify the steps necessary to accomplish goals
4. Identify reasons for why progress is or isn't being made toward accomplishing goals
5. Apply visual frameworks to organize language and comprehend key concepts

Reading

1. Assess whether a text is appropriate according to the reading purpose
2. (a) Make predictions about the text using text features
   (b) Assess relevant prior knowledge and identify gaps
3. Utilize tools to deepen understanding of vocabulary
4. Mark the text to accomplish the reading purpose through the lens of a content expert
   (b) Identify the key components of a text related to the reading purpose
5. Extend beyond the text by evaluating and synthesizing key learning

OPPORTUNITY KNOWLEDGE (7.OK)

Advancing College Preparedness

1. Define key personal attributes for academic, social, and financial fit related to college selection
2. (a) Explore the significance of GPA at different stages of the academic journey
   (b) Explore college options and terminology
3. Evaluate personal level of readiness for scholarship eligibility
4. (a) Reflect on how academic plans and course completion support progress toward desired major
   (b) Determine which courses or opportunities align with college goals and plans
   (c) Explore campus-, district-, or community-based opportunities to earn college credit in high school (dual credit, online learning, etc.)
5. (a) Explore match schools, reach schools, and safety schools in order to determine the best academic fit during the selection process
   (b) Prepare for college entrance exams

Building Career Knowledge

1. Define key personal attributes for academic, social, and financial fit related to career selection
2. Explore career fields and career pathways, including what resources and opportunities are available locally
3. Investigate best-fit career fields based on academic, social, and financial fit
4. Reflect on how academic plans and course completion support progress toward desired career field

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. M/J Advancement Via Individual Determination 7 (M/J AVID 7) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in M/J AVID 8. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700125

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J AVID 7TH & C/P

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 7

M/J AVID 8th (#1700130) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

The 7th grade AVID elective course is the year of preparation for high school. Students will regularly exhibit and utilize the skills and strategies learned in the 6th and 7th grade AVID courses. They will refine previous goals, focusing on their transition to high school as part of a college-preparatory path. Their writing will focus on completing all steps of the writing process and varying style, word choice, vocabulary, structure, and voice. Major writing assignments include persuasive, expository, descriptive, and timed writing. Students will transition from active learners to leaders. Other areas of focus include increasing the use of technology and building upon test-preparation and test-taking knowledge. Students will broaden their experience with analyzing text and utilizing appropriate reading strategies in various settings. They will become more involved in guest-speaker presentations and field trips, particularly as they relate to preparation and prior knowledge. Students will also participate in college-preparatory testing and build connections with the high school they will attend.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (8.SA)

Student Empowerment

1. Explore and pursue leadership opportunities in extracurricular and community service activities within the school and local and/or global community
2. Evaluate the impact of decisions on the world
3. Effectively manage stress and anxiety levels, including areas such as test preparation and test taking
4. Create a systemic decision-making model for personal financial decisions and circumstances
5. (a) Maintain a strong support network for academic and career success
   (b) Identify mentors to influence, support, and guide future transactions and success
6. Apply strategies to support motivation, especially when lacking intrinsic motivation
7. (a) Strengthen ability to self-advocate related to areas of need

(b) Leverage support network to assist with areas of need

8. (a) Reflect on current status and skills to strengthen mental flexibility now and in the future
   (b) Recognize and overcome obstacles that could hinder future success
9. Apply self-awareness strategies and skills with a variety of academic challenges
10. Employ key learning points in real-world applications

Leadership of Others

1. Assess personal traits connected to integrity and ethical leadership
2. Pursue leadership and/or mentorship opportunities in the school and community
3. Reflect on conflict situations to strengthen ability to deal with the emotions that accompany conflict in leadership roles

RIGOROUS ACADEMIC PREPAREDNESS (8.AP)

Writing

1. (a) Develop writing skills related to timed, argumentative, and descriptive modes of writing
   (b) Gather information related to the writing prompt to generate a bank of resources and information
   (c) Compose first drafts with a focus on establishing a clear purpose for the writing
2. Utilize inquiry strategies to develop additional questions as needed
3. Independently create and execute a plan for the revision process
4. Analyze the language of writing and edit for voice, flow, and clarity
5. Publish writing to an audience outside of the classroom, such as an online forum
6. (a) Take notes with an emphasis on selecting the appropriate format for note-taking based on the note-taking objective
   (b) Take notes with an emphasis on using strategies to organize notes (e.g., indentation, bullets, outlines, skipping lines, color-coding)
7. Reflect on how notes help to meet the learning objective and contribute to academic and personal success

Inquiry

1. Use questioning techniques to think critically about content and concepts
2. Generate questions based on a misunderstood concept or problem
3. Determine modifications to the process that would be needed to solve similar problems
4. Reflect on learning to make connections between new learning and the broader world
5. Reflect throughout learning on progress and continually adjust actions on major tasks or assignments
6. Reflect throughout a process on progress and continually adjust actions
7. Develop research questions/claim statements that effectively address the research prompt
8. Determine the perspective, validity, and reliability of information found within sources with the use of multiple sources (such as books, articles, and websites)
9. Synthesize information, sources, and data that support the research prompt
10. Construct written claims and support them with reasoning and evidence
11. Publish research to an audience outside of the classroom

Collaboration

1. Negotiate roles within a collaborative group through the adoption of effective elements of collaboration
2. Integrate multiple perspectives into group products
3. Deepen relational capacity through the creation of novel ideas and solutions
4. Interact with peers in complex situations (providing feedback, conflict management, academic discourse) while maintaining a focus on respect, trust, and empathy
5. Support all members' understanding of key concepts
6. Utilize technology to connect to the global community and to explore topics from multiple perspectives
7. Adjust ineffective verbal and nonverbal communication into effective communication
8. Demonstrate active listening by asking clarifying questions
9. Demonstrate command of grammar when communicating
10. Speak effectively before the whole class

Organization

1. (a) Develop efficient, individualized routines related to using organizational tools and planning strategies that enhance academic performance
   (b) Reflect on the use of an activity log or tracking system for community extracurricular activities and hours
2. (a) Understand and demonstrate the concepts and practices of backward mapping
   (b) Identify upcoming events to proactively avoid time-management conflicts
3. Create short- and mid-range goals that support achievement of long-term goals
4. Modify goals and actions appropriately based on progress
5. Manage varied visual frameworks to organize language and show relationships between key concepts

Reading

1. Select texts and justify how they meet the reading purpose
2. Build background knowledge related to the text preview
3. Connect vocabulary within texts to broader concepts in the text
4. Create text-dependent questions while reading that align with the reading purpose
5. Extend beyond the text by analyzing how to best apply key learning

OPPORTUNITY KNOWLEDGE (8.OK)

Advancing College Preparedness

1. Refine key personal attributes for academic, social, and financial fit related to college selection
2. (a) Reflect on current GPA and how it relates to choosing a college and career path

(b) Compare various college campus structures, services, and opportunities
3. Research and evaluate scholarship offerings, including FAFSA
4. (a) Produce long-term academic plans that align with goals
(b) Plan for a successful transition to the next step in the academic journey
(c) Gain exposure to pathways offering work opportunities (credentials, certifications, internships, etc.)
5. (a) Engage in information gathering to determine match, reach, and safety schools in order to mitigate "summer melt" and undermatching during the selection process
(b) Determine whether additional test prep and testing is needed to reach scholarship goals

Building Career Knowledge

1. (a) Develop and authentic and personal definition of success
(b) Refine key personal attributes for academic, social, and financial fit related to career selection
2. (a) Gain awareness of how academic performance links to career performance and success
(b) Expand thinking about potential career fields by encouraging discovery of a variety of career fields and the opportunities therein
(c) Develop knowledge and gain exposure to transitional phases related to work life
3. Identify best-fit career fields based on academic, social, and financial fit to develop short- and long-term career pathways
4. Engage in real-world experiences within career fields of interest, such as service-learning projects, job-shadowing opportunities, or internship possibilities

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. M/J Advancement Via Individual Determination 8 (M/J AVID 8) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700130

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: M/J AVID 8TH
Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 8

M/J AVID 8th & Career Planning (#1700135) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

The 7th grade AVID elective course is the year of preparation for high school. Students will regularly exhibit and utilize the skills and strategies learned in the 6th and 7th grade AVID courses. They will refine previous goals, focusing on their transition to high school as part of a college-preparatory path. Their writing will focus on completing all steps of the writing process and varying style, word choice, vocabulary, structure, and voice. Major writing assignments include persuasive, expository, descriptive, and timed writing. Students will transition from active learners to leaders. Other areas of focus include increasing the use of technology and building upon test-preparation and test-taking knowledge. Students will broaden their experience with analyzing text and utilizing appropriate reading strategies in various settings. They will become more involved in guest-speaker presentations and field trips, particularly as they relate to preparation and prior knowledge. Students will also participate in college-preparatory testing and build connections with the high school they will attend.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (8.SA)

Student Empowerment

1. Explore and pursue leadership opportunities in extracurricular and community service activities within the school and local and/or global community
2. Evaluate the impact of decisions on the world
3. Effectively manage stress and anxiety levels, including areas such as test preparation and test taking
4. Create a systemic decision-making model for personal financial decisions and circumstances
5. (a) Maintain a strong support network for academic and career success
   (b) Identify mentors to influence, support, and guide future transactions and success
6. Apply strategies to support motivation, especially when lacking intrinsic motivation
7. (a) Strengthen ability to self-advocate related to areas of need

(b) Leverage support network to assist with areas of need
8. (a) Reflect on current status and skills to strengthen mental flexibility now and in the future
(b) Recognize and overcome obstacles that could hinder future success
9. Apply self-awareness strategies and skills with a variety of academic challenges
10. Employ key learning points in real-world applications

Leadership of Others

1. Assess personal traits connected to integrity and ethical leadership
2. Pursue leadership and/or mentorship opportunities in the school and community
3. Reflect on conflict situations to strengthen ability to deal with the emotions that accompany conflict in leadership roles

RIGOROUS ACADEMIC PREPAREDNESS (8.AP)

Writing

1. (a) Develop writing skills related to timed, argumentative, and descriptive modes of writing
(b) Gather information related to the writing prompt to generate a bank of resources and information
(c) Compose first drafts with a focus on establishing a clear purpose for the writing
2. Utilize inquiry strategies to develop additional questions as needed
3. Independently create and execute a plan for the revision process
4. Analyze the language of writing and edit for voice, flow, and clarity
5. Publish writing to an audience outside of the classroom, such as an online forum
6. (a) Take notes with an emphasis on selecting the appropriate format for note-taking based on the note-taking objective
(b) Take notes with an emphasis on using strategies to organize notes (e.g., indentation, bullets, outlines, skipping lines, color-coding)
7. Reflect on how notes help to meet the learning objective and contribute to academic and personal success

Inquiry

1. Use questioning techniques to think critically about content and concepts
2. Generate questions based on a misunderstood concept or problem
3. Determine modifications to the process that would be needed to solve similar problems
4. Reflect on learning to make connections between new learning and the broader world
5. Reflect throughout learning on progress and continually adjust actions on major tasks or assignments
6. Reflect throughout a process on progress and continually adjust actions
7. Develop research questions/claim statements that effectively address the research prompt
8. Determine the perspective, validity, and reliability of information found within sources with the use of multiple sources (such as books, articles, and websites)
9. Synthesize information, sources, and data that support the research prompt
10. Construct written claims and support them with reasoning and evidence
11. Publish research to an audience outside of the classroom

Collaboration

1. Negotiate roles within a collaborative group through the adoption of effective elements of collaboration
2. Integrate multiple perspectives into group products
3. Deepen relational capacity through the creation of novel ideas and solutions
4. Interact with peers in complex situations (providing feedback, conflict management, academic discourse) while maintaining a focus on respect, trust, and empathy
5. Support all members' understanding of key concepts
6. Utilize technology to connect to the global community and to explore topics from multiple perspectives
7. Adjust ineffective verbal and nonverbal communication into effective communication
8. Demonstrate active listening by asking clarifying questions
9. Demonstrate command of grammar when communicating
10. Speak effectively before the whole class

Organization

1. (a) Develop efficient, individualized routines related to using organizational tools and planning strategies that enhance academic performance
(b) Reflect on the use of an activity log or tracking system for community extracurricular activities and hours
2. (a) Understand and demonstrate the concepts and practices of backward mapping
(b) Identify upcoming events to proactively avoid time-management conflicts
3. Create short- and mid-range goals that support achievement of long-term goals
4. Modify goals and actions appropriately based on progress
5. Manage varied visual frameworks to organize language and show relationships between key concepts

Reading

1. Select texts and justify how they meet the reading purpose
2. Build background knowledge related to the text preview
3. Connect vocabulary within texts to broader concepts in the text
4. Create text-dependent questions while reading that align with the reading purpose
5. Extend beyond the text by analyzing how to best apply key learning

OPPORTUNITY KNOWLEDGE (8.OK)

Advancing College Preparedness

1. Refine key personal attributes for academic, social, and financial fit related to college selection
2. (a) Reflect on current GPA and how it relates to choosing a college and career path

(b) Compare various college campus structures, services, and opportunities
3. Research and evaluate scholarship offerings, including FAFSA
4. (a) Produce long-term academic plans that align with goals
(b) Plan for a successful transition to the next step in the academic journey
(c) Gain exposure to pathways offering work opportunities (credentials, certifications, internships, etc.)
5. (a) Engage in information gathering to determine match, reach, and safety schools in order to mitigate "summer melt" and undermatching during the selection process
(b) Determine whether additional test prep and testing is needed to reach scholarship goals

Building Career Knowledge

1. (a) Develop and authentic and personal definition of success
(b) Refine key personal attributes for academic, social, and financial fit related to career selection
2. (a) Gain awareness of how academic performance links to career performance and success
(b) Expand thinking about potential career fields by encouraging discovery of a variety of career fields and the opportunities therein
(c) Develop knowledge and gain exposure to transitional phases related to work life
3. Identify best-fit career fields based on academic, social, and financial fit to develop short- and long-term career pathways
4. Engage in real-world experiences within career fields of interest, such as service-learning projects, job-shadowing opportunities, or internship possibilities

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. M/J Advancement Via Individual Determination 8 (M/J AVID 8) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700135

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J AVID 8TH & C/P

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 8

M/J Global Perspectives 1 Cambridge Lower Secondary (#1700200) 2018 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700200

Course Status: Course Approved

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J GLOB PERS 1 CLS

Course Length: Year (Y)

Course Level: 3

M/J Global Perspectives 1 Cambridge Lower Secondary & Career Planning (#1700205) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information on this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-lower-secondary/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700205

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J GL PERS 1 CLS CP

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

M/J Global Perspectives 2 Cambridge Lower Secondary (#1700210) 2018 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700210

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J GLOB PERS 2 CLS

Course Length: Year (Y)

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

M/J Global Perspectives 2 Cambridge Lower Secondary & Career Planning (#1700215) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information on this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-lower-secondary/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700215

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J GL PERS 2 CLS CP

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

M/J Global Perspectives 3 Cambridge Lower Secondary (#1700220) 2018 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700220

Course Status: Course Approved

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J GLOB PERS 3 CLS

Course Length: Year (Y)

Course Level: 3

M/J Global Perspectives 3 Cambridge Lower Secondary & Career Planning (#1700225) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information on this Cambridge course, visit cambridgeinternational.org/programmes-and-qualifications/cambridge-lower-secondary/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700225

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: M/J GL PERS 3 CLS CP

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Research 1 (#1700300) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. **Standard Relation to Course: Supporting**
LAFS.910.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.910.RI.3.8:	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.W.1.2:	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). **Standard Relation to Course: Supporting**
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.910.W.4.10:	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Construct viable arguments and critique the reasoning of others.

MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SS.912.P.12.1:	Define cognitive processes involved in understanding information. **Clarifications:** Examples may include, but are not limited to, encoding, storage, and retrieval.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop fundamental knowledge of the steps in the research process.

The content should include, but not be limited to, the following:

- nature and purpose of research
- research questions and hypotheses
- research methods and procedures
- review of literature and other resources
- primary and secondary sources
- directed investigations
- organization of information
- report formats, styles, and content
- critical analysis of research
- submission of a major independent research project

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: RESEARCH 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Research 2 (#1700310) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. **Standard Relation to Course: Supporting**
LAFS.910.L.1.2:	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use a semicolon, with or without a conjunctive adverb, to link two or more closely related independent clauses. b. Use a colon to introduce a list or quotation. c. Spell correctly. **Standard Relation to Course: Supporting**
LAFS.910.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.910.RI.2.6:	Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
LAFS.910.RI.3.7:	Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
LAFS.910.RI.3.8:	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.W.1.1:	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented. **Standard Relation to Course: Supporting**
LAFS.910.W.1.2:	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). **Standard Relation to Course: Supporting**

LAFS.910.W.1.3:	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole. d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative. **Standard Relation to Course: Supporting**
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.910.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grades 9–10 Reading standards to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]"). b. Apply grades 9–10 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning"). **Standard Relation to Course: Supporting**
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SS.912.P.12.1:	Define cognitive processes involved in understanding information. **Clarifications:** Examples may include, but are not limited to, encoding, storage, and retrieval.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop basic knowledge and skills in the research process with emphasis on determining and refining research questions.

The content should include, but not be limited to, the following:

- research process

- research topics
- research questions and hypotheses
- definition, analysis, and evaluation of research questions
- review of literature and other resources
- primary and secondary sources
- formulation of hypotheses
- organization of information
- report formats, styles, and content
- directed investigations -critical analysis of research

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: RESEARCH 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Research 3 (#1700320) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.1112.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. b. Resolve issues of complex or contested usage, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage*) as needed. **Standard Relation to Course: Supporting**
LAFS.1112.L.1.2:	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Observe hyphenation conventions. b. Spell correctly. **Standard Relation to Course: Supporting**
LAFS.1112.RH.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
LAFS.1112.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
LAFS.1112.RI.1.2:	Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
LAFS.1112.RI.2.6:	Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.
LAFS.1112.RI.3.7:	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
LAFS.1112.RI.3.8:	Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. **Standard Relation to Course: Supporting**
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.1112.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grades 11–12 Reading standards to literature (e.g., "Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics"). b. Apply grades 11–12 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., The Federalist, presidential addresses]"). **Standard Relation to Course: Supporting**

LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. **Standard Relation to Course: Supporting**
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). **Standard Relation to Course: Supporting**
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper,

MAFS.K12.MP.5.1:	concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SS.912.P.12.1:	Define cognitive processes involved in understanding information. **Clarifications:** Examples may include, but are not limited to, encoding, storage, and retrieval.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to enable students to develop proficient knowledge and skills in the research process with emphasis on appropriate research design.

The content should include, but not be limited to, the following:

- research process
- experimental, descriptive, and historical research
- research design and methodology
- legal and ethical issues in research
- research questions and hypotheses
- review of literature and other resources
- data collection, analysis, and statistics
- report formats, styles, and content
- investigations
- critical analysis of research

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: RESEARCH 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Florida's Preinternational Baccalaureate Inquiry Skills (#1700360) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.910.RI.1.2:	Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
LAFS.910.RI.2.6:	Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
LAFS.910.RI.3.7:	Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
LAFS.910.RI.3.8:	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.W.1.1:	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.910.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grades 9–10 Reading standards to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]"). b. Apply grades 9–10 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning").
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems

	and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
SS.912.P.11.3:	Discuss strategies for improving the encoding of memory.

SS.912.P.11.7:	Discuss strategies for improving the storage of memories.
SS.912.P.11.12:	Discuss strategies for improving the retrieval of memories.
SS.912.P.12.1:	Define cognitive processes involved in understanding information. **Clarifications:** Examples may include, but are not limited to, encoding, storage, and retrieval.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
SS.912.P.12.5:	Describe obstacles to decision making. **Clarifications:** Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.

General Course Information and Notes

GENERAL NOTES

Special Note. *Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course".*

The IB does not recognize pre-IB courses or courses labeled IB by different school districts which are not an official part of the IBDP or IBCC curriculum. Typically, students enrolled in grade 9 or 10 are not in the IBDP or IBCC programmes.
ibanswers.ibo.org/app/answers/detail/a_id/5414/kw/pre-ib. **Florida's Pre-IB courses should only be used in schools where MYP is not offered in order to prepare students to enter the IBDP. Teachers of Florida's Pre-IB courses should have undergone IB training in order to ensure seamless articulation for students within the subject area.**
Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: FL PRE-IB INQ SKILLS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10

Cambridge Pre-AICE Global Perspectives IGCSE Level (#1700362) 2015 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700362

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: PRE-AICE GLBLPERS IG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Cambridge AICE Global Perspectives and Independent Research 1 AS Level (#1700364) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700364

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AICE GLBL PERSP 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Cambridge AICE Global Perspectives and Independent Research 2 A Level (#1700365) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700365

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AICE GLBL PERSP 2 A

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Critical Thinking and Study Skills (#1700370) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.910.RI.2.4:	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
LAFS.910.RI.2.6:	Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
LAFS.910.RI.3.7:	Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
LAFS.910.RI.3.8:	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.W.1.1:	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented. **Standard Relation to Course: Supporting**
LAFS.910.W.1.2:	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). **Standard Relation to Course: Supporting**
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

LAFS.910.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
SS.912.P.11.3:	Discuss strategies for improving the encoding of memory.
SS.912.P.11.7:	Discuss strategies for improving the storage of memories.
SS.912.P.11.12:	Discuss strategies for improving the retrieval of memories.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

This course is designed to develop skills related to critical thinking, learning and problem solving, enabling students to enhance their performance in both academic and non-academic areas. Strategies for acquiring, storing and retrieving information, time management and organizational skills, critical thinking operations and processes, strategies for oral and written communication, and problem solving skills including test taking skills are an integral part of this course.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education

Course Number: 1700370

Number of Credits: Half credit (.5)

Course Type: Elective Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: CRIT THINK ST SKLS

Course Length: Semester (S)

Course Level: 2

Cambridge AICE Thinking Skills 1 AS Level (#1700372) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700372

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AICE THINK SKLS 1 AS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Cambridge AICE Thinking Skills 2 A Level (#1700374) 2014

- And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700374

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AICE THINK SKLS 2 AL

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Career Research and Decision Making (#1700380) 2015 - 2022

(current)

Course Standards

Name	Description
LAFS.910.L.1.1:	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure. b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. **Standard Relation to Course: Supporting**
LAFS.910.L.1.2:	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use a semicolon, with or without a conjunctive adverb, to link two or more closely related independent clauses. b. Use a colon to introduce a list or quotation. c. Spell correctly.
LAFS.910.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
LAFS.910.RI.2.4:	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
LAFS.910.RI.2.6:	Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.
LAFS.910.RI.3.7:	Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
LAFS.910.RI.3.8:	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **Standard Relation to Course: Supporting**
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.W.1.1:	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented. **Standard Relation to Course: Supporting**
LAFS.910.W.1.2:	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

	f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
	Standard Relation to Course: Supporting
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.910.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
SS.912.E.1.5:	Compare different forms of business organizations. **Clarifications:** Examples are sole proprietorship, partnership, corporation, limited liability corporation.
SS.912.E.1.13:	Explain the basic functions and characteristics of money, and describe the composition of the money supply in the United States.
SS.912.E.1.14:	Compare credit, savings, and investment services available to the consumer from financial institutions.
SS.912.E.1.15:	Describe the risk and return profiles of various investment vehicles and the importance of diversification. **Clarifications:** Examples are savings accounts, certificates of deposit, stocks, bonds, mutual funds, Individual Retirement Accounts.
SS.912.E.1.16:	Construct a one-year budget plan for a specific career path including expenses and construction of a credit plan for purchasing a major item. **Clarifications:** Examples of a career path are university student, trade school student, food service employee, retail employee, laborer, armed forces enlisted personnel. Examples of a budget plan are housing expenses, furnishing, utilities, food costs, transportation, and personal expenses - medical, clothing, grooming, entertainment and recreation, and gifts and contributions. Examples of a credit plan are interest rates, credit scores, payment plan.
SS.912.E.2.1:	Identify and explain broad economic goals. **Clarifications:** Examples are freedom, efficiency, equity, security, growth, price stability, full employment.
SS.912.E.2.8:	Differentiate between direct and indirect taxes, and describe the progressivity of taxes (progressive, proportional, regressive). **Clarifications:** Examples are income, sales, social security.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
SS.912.P.12.4:	Describe obstacles to problem solving. **Clarifications:** Examples may include, but are not limited to, fixation and functional fixedness.
SS.912.P.12.5:	Describe obstacles to decision making. **Clarifications:** Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.5.4:	Assess whether individual or collaborative decision making is needed to make a healthy decision. **Clarifications:** Planning a post-high school career/education, purchasing the family's groceries for the week, planning the weekly menu, planning appropriate activities for siblings, community planning, Internet safety, and purchasing insurance.
HE.912.C.2.2:	Compare how peers influence healthy and unhealthy behaviors. **Clarifications:** Binge drinking and social groups, sexual coercion [pressure, force, or manipulation] by a dating partner, students' recommendations for school vending machines, healthy lifestyle, review trends in current and emerging diseases, and use of helmets and seatbelts.
HE.912.C.2.3:	Assess how the school and community can affect personal health practice and behaviors. **Clarifications:** Healthier foods, required health education, health screenings, and enforcement of "no tolerance" policies related to all forms of violence, and AED availability and training.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete

	objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

The purpose of this course is to develop career planning competencies, enabling students to make informed career choices and develop the skills needed to successfully plan and apply for college or a job.

The content should include, but not be limited to, the following:

- goal-setting and decision-making processes
- self-assessment
- sources of career information
- occupational fields and educational requirements -postsecondary education and training opportunities -writing, listening, viewing, and speaking skills for applications and interviews
- financial planning and sources of educational financial assistance
- career planning

After successfully completing this course, the student will:

1. Identify and demonstrate use of the steps of systematic goal-setting and decision-making processes.
2. Demonstrate use of techniques for self-assessment (e.g., inventories, journals, surveys, interviews) to determine personal career interests and capabilities.
3. Demonstrate use of strategies for identifying personal strengths and weaknesses and making improvements.
4. Demonstrate use of career resources to identify preferred occupational fields, career opportunities within each field, employment prospects, and education or training requirements.
5. Demonstrate appropriate writing, listening, viewing, and speaking skills needed to successfully apply for postsecondary education or work (e.g., writing a letter of application, résumé, or essay; compiling a portfolio; filling out an application; participating in an interview).
6. Understand the importance of financial planning and demonstrate knowledge of varied types and sources of financial aid to obtain assistance for postsecondary education.
7. Develop a personal education and career plan.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the benchmarks from the Next Generation Sunshine State Standards and Florida Standards that are most relevant to this course. Benchmarks correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Sunshine State Standards. Other subject areas and content may be used to fulfill course requirements.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: CAR RESA & DECI MAK

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Advancement Via Individual Determination 1 (#1700390) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

Some students will have previous experience with AVID in the middle school grades, and some students will be experiencing AVID for the first time. Either way, the 9th grade AVID elective course will service as a review of the AVID philosophy and strategies. Students will work on academic and personal goals and communication, adjusting to the high school setting. Students will increase their awareness of their personal contributions to their learning as well as their involvement in their school and community. There is an emphasis on analytical writing, focusing on personal goals and thesis writing. Students will work in collaborative settings, learning how to participate in collegial discussions and use sources to support their ideas and opinions. Students will prepare for and participate in college entrance and placement exams while refining study skills and test-taking, note-taking, and research techniques. They will take an active role in field trips and guest-speaker preparations and presentations. Their college research will include financial topics and building their knowledge of colleges and careers of interest.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Preparing for College

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (9.SA)

Student Empowerment

1. (a) Determine personal interest for extracurricular and community service activities within the school and community
   (b) Gain awareness of extracurricular and community service activities within the school and community
2. Evaluate the impact of decisions on others
3. Explore the importance of healthy, balanced lifestyles, including aspects such as good sleeping, eating, and exercise habits
4. Establish understanding of concepts and content-specific vocabulary related to personal finance

5. (a) Identify characteristics of positive, healthy relationships
   (b) Explore individual peer relationships and identify those that are positive and healthy
6. Gain awareness of motivators that positively impact performance
7. Self-monitor to diagnose areas of need (e.g., academic, personal, social-emotional)
8. (a) Gain awareness of skills that increase mental flexibility
   (b) Explore the relationship between grit and perseverance
9. (a) Identify strategies and skills that promote self-awareness
   (b) Identify individual strengths and areas of challenge related to academic skills and performance
10. Determine key points ifrom learning experiences

Leadership of Others

1. Identify traits connected to personal integrity and ethics
2. (a) Identify leadership opportunities and positions in the school and community
   (b) Determine formal and informal leadership opportunities that could be pursued
3. (a) Select tools to analyze a conflict and identify a positive solution
   (b) Classify passive, assertive, and aggressive statements

RIGOROUS ACADEMIC PREPAREDNESS (9.AP)

Writing

1. (a) Develop writing skills related to expository, timed, and descriptive modes of writing
   (b) Plan and structure writing based on the mode (descriptive, narrative, expository, argumentative)
   (c) Draft initial writing
2. Analyze a writing task by identifying key vocabulary and audience
3. Gather and analyze feedback from peers and instructors
4. (a) Edit drafts for grammar, mechanics, and spelling
   (b) Analyze the organizational structure of writing
5. Publish writing to a small group audience within the classroom, such as a formal written paper
6. (a) Take notes with an emphasis on identifying and recording the note-taking objective and/or Essential Question
   (b) Take notes with an emphasis on setting up notes, including all required components
7. Summarize by pulling together the most important information related to the objective and/or Essential Question

Inquiry

1. Create questions based on Costa's Levels of Thinking
2. Identify misunderstood concepts or problems
3. Determine the steps/process that led to a solution
4. Reflect on learning to make connections between new learning and previous learning
5. Reflect on learning strategies that were employed and whether those strategies were effective
6. (a) Identify processes that are used
   (b) Reflect on a process that was used and whether that process was effective
7. Analyze a research prompt
8. (a) Locate sources that are relevant to the topic and support the purpose of the research assignment
   (b) Distinguish between primary and secondary sources
9. Plan and structure the writing based on the research prompt
10. Integrate quotations and references to texts, using proper citations
11. Publish research to a small group audience within the classroom, such as a formal, written paper

Collaboration

1. Establish norms and expectations around shared responsibility among group members
2. Establish norms and expectations around appreciating diversity among group members
3. Develop a foundational familiarity and comfort with classmates
4. Identify respectful and disrespectful actions of self and others
5. Check group members' level of understanding
6. Utilize technology to collaborate with classmates
7. (a) Apply basic understanding of effective public speaking
   (b) Incorporate visual aids and/or technology when appropriate
8. Describe the characteristics of effective listening, such as eye contact and mirroring
9. Monitor word choice when speaking
10. Identify formal and informal language registers

Organization

1. (a) Begin implementing organizational tools (e.g., binders/eBinders, portfolios, or digital folders) that support academic success
   (b) Create an activity log or tracking system for community extracurricular activities and hours
2. (a) Explore a variety of organizational formats for calendaring/planning
   (b) Determine how to use time effectively
   (c) Assess complex assignments and break them into smaller tasks
3. Set personal, academic, and career goals
4. Monitor progress toward goals
5. Utilize visual frameworks to organize information

Reading

1. Determine the characteristics of a high-quality text in relation to the reading purpose
2. (a) Preview text features
   (b) Identify prior knowledge that may be relevant to the reading
3. Assess knowledge of academic and content-specific vocabulary words
4. (a) Mark the text to accomplish the reading purpose
   (b) Identify the key components of a text related to the reading purpose
5. Extend beyond the text by applying key learning

OPPORTUNITY KNOWLEDGE (9.OK)

Advancing College Preparedness

1. Identify personal interests and skills related to future college aspirations, such as through an interest inventory
2. (a) Know how to determine GPA
   (b) Develop familiarity with college terminology
   (c) Classify the various types of colleges
3. Understand scholarship and the role they play in college financing
4. Articulate the importance of long-term academic plans as a part of goal setting and achievement
5. (a) Identify what is meant by match schools, reach schools, and safety schools in order to determine the best academic fit during the selection process
   (b) Understand the different college entrance exams: PSAT, PreACT, SAT, ACT

Building Career Knowledge

1. Identify personal interests and skills related to future career aspirations
2. (a) Increase familiarity with career terminology
   (b) Distinguish between jobs, careers, and career fields
3. (a) Establish initial knowledge around the characteristics that contribute to academic, social, and financial fit
   (b) Explore the net cost of attending college to inform decisions and budget plans
4. Request assistance in selecting career elective courses and pathways that match interests and goals

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination 1 (AVID 1) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in AVID 2, 3 and 4. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700390	**Course Path: Section:** Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General > **Abbreviated Title:** AVID 1
Number of Credits: One (1) credit	**Course Length:** Year (Y)
Course Type: Elective Course	**Course Level:** 2

Course Status: Course Approved
Grade Level(s): 9

Advancement Via Individual Determination 2 (#1700400) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

During the 10th grade AVID elective course, students will refine the AVID strategies to meet their independent needs and learning styles. Students will continue to refine and adjust their academic learning plans and goals, increasing awareness of their actions and behaviors. As students increase their rigorous course load and school/community involvement, they will refine their time-management and study skills accordingly. Students will expand their writing portfolio to include analyzing prompts, supporting arguments and claims, character analysis, and detailed reflections. Students will also analyze various documents in order to participate in collaborative discussions and develop leadership skills in those settings. Students will expand their vocabulary use, continuing to prepare for college entrance exams. Text analysis will focus on specific strategies to understand complex texts. Lastly, students will narrow down their colleges and careers of interest based on their personal interests and goals.

AVID curriculum books used:

AVID College and Careers

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Preparing for College

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (10.SA)

Student Empowerment

1. Explore and experience extracurricular and community service activities within the school and community
2. Evaluate the impact of decisions on the environment
3. (a) Identify activities that assist with self-care and healthy habits
   (b) Identify areas that need attention and develop goals to address those areas
4. Increase awareness and apply basic concepts of budgeting, spending, and making responsible financial decisions
5. Develop a support network that includes peers and adults for academic and future success

6. Explore how individual motivators and self-monitoring of motivation impact academic performance
7. Seek help related to areas of need
8. Determine personal levels of grit and perseverance in relation to growth mindset
9. Establish self-awareness strategies and skills, including SLANT (Sit with proper posture, Lean forward and listen, Ask pertinent questions, Nod your head "yes" or "no," Talk to your teachers)
10. Make connections between key learning points and new contexts

Leadership of Others

1. Identify traits connected to responsibility, integrity and ethical interactions with others
2. Pursue leadership opportunities across the school
3. (a) Identify personal conflict-management style
   (b) Transform passive and aggressive statements into constructive, assertive statements

RIGOROUS ACADEMIC PREPAREDNESS (10.AP)

Writing

1. (a) Develop writing skills related to the argumentative mode of writing
   (b) Generate multiple ideas that support, explain, or enhance the writing topic or theme
   (c) Compose first drafts using ideas and information gathered during pre-writing
2. Analyze a writing task to determine the purpose, format/style, and audience
3. Write multiple drafts with increasing depth based on feedback and observations
4. Analyze and edit sentence structure to create interest and complexity
5. Publish writing to entire class, such as an oral presentation
6. (a) Take notes with an emphasis on recording main ideas and important information
   (b) Take notes with an emphasis on condensing information by using abbreviations/symbols/paraphrasing
7. Summarize by pulling together the most important information and personal connections related to the objective and/or Essential Question

Inquiry

1. Develop inquiry skills through focused observations and analyses
2. Identify the specific point of confusion related to a misunderstood concept or problem
3. Determine whether similar problems could be solved using the same steps/process
4. Reflect on learning to make connections between new learning and previous experience
5. Reflect on learning strategies that were employed, and whether those learning strategies were effective, and how methods could be adjusted in the future
6. Reflect on a process that was used, whether that process was effective, and how methods could be adjusted in the future
7. Brainstorm ideas for research topics to address a research prompt
8. Determine the relevance, validity, and reliability of information found within sources
9. Organize information, sources, and data that support the research prompt
10. Integrate quotations to support claims, citing locations and referenced for texts
11. Publish research to entire class, such as an oral presentation

Collaboration

1. Hold self and peers accountable for following group norms about shared responsibility
2. Summarize points of agreement and disagreement from varying perspectives
3. Deepen relational capacity with classmates through effective conflict management
4. Establish norms and expectations around respectful interactions among group members
5. Ask clarifying questions to group members to facilitate understanding
6. Utilize technology to collaborate with classmates and community members
7. (a) Distinguish between effective and ineffective language during interactions
   (b) Refine usage of nonverbal communication when speaking, including body language and eye contact
8. Demonstrate active listening skills during academic conversations
9. Utilize academic vocabulary when communicating
10. Speak effectively before small groups of peers

Organization

1. (a) Refine usage of organizational tools (e.g., binders/eBinders, portfolios, or digital folders) and systems that support academic success
   (b) Maintain an activity log or tracking system for community extracurricular activities and hours
2. (a) Utilize an organizational tool to record obligations and constraints on time
   (b) Demonstrate the process of backward mapping
3. Identify the steps necessary to accomplish goals
4. Identify reasons for why progress is or isn't being made toward accomplishing goals
5. Apply visual frameworks to organize language and comprehend key concepts

Reading

1. Assess whether a text is appropriate according to the reading purpose
2. (a) Make predictions about the text using text features
   (b) Assess relevant prior knowledge and identify gaps
3. Utilize tools to deepen understanding of vocabulary
4. Mark the text to accomplish the reading purpose through the lens of a content expert
5. Extend beyond the text by evaluating and synthesizing key learning

OPPORTUNITY KNOWLEDGE (10.OK)

Advancing College Preparedness

1. Define key personal attributes for academic, social, and financial fit related to college selection
2. (a) Explore the significance of GPA at different stages of the academic journey
   (b) Explore college options and terminology
   (c) Classify the various types of colleges
3. Evaluate personal level of readiness for scholarship eligibility
4. (a) Reflect on how academic plans and course completion support progress toward desired major
   (b) Determine which courses or opportunities align with college goals and plans
   (c) Explore campus-, district-, or community-based opportunities to earn college credit in high school (dual credit, online learning, etc.)
5. (a) Explore match schools, reach schools, and safety schools in order to determine the best academic fit during the selection process
   (b) Prepare for college entrance exams

Building Career Knowledge

1. Define key personal attributes for academic, social, and financial fit related to career selection
2. Explore career fields and career pathways, including what resources and opportunities are available locally
3. Investigate best-fit career fields based on academic, social, and financial fit
4. Reflect on how academic plans and course completion support progress toward desired career field

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination 2 (AVID 2) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in AVID 3 and 4. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AVID 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 10

Advancement Via Individual Determination 3 (#1700410) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

The 11th grade AVID elective course is the first part in a junior/senior seminar course that focuses on writing and critical thinking expected of first- and second-year college students. In addition to the academic focus of the AVID seminar, there are college-bound activities, methodologies, and tasks that should be undertaken during the junior year to support students when they apply to four-year universities and confirm their postsecondary plans.

AVID curriculum books used:

AVID College and Careers

AVID College Readiness: Working with Sources

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Preparing for College

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (11.SA)

Student Empowerment

1. Explore and pursue leadership opportunities in extracurricular and community service activities within the school and local and/or global community
2. Evaluate the impact of decisions on the world
3. Effectively manage stress and anxiety levels, including areas such as test preparation and test-taking
4. Create a systematic decision-making model for personal financial decisions and circumstances
5. (a) Maintain a strong support network for academic and future success
   (b) Identify mentors to influence, support, and guide future transitions and success
6. Apply strategies to support motivation, especially when lacking intrinsic motivation

7. (a) Strengthen ability to self-advocate related to areas of need
   (b) Leverage support network to assist with areas of need
8. (a) Reflect on current status and skills to strengthen mental flexibility now and in the future
   (b) Recognize and overcome obstacles that could hinder future success
9. Apply self-awareness strategies and skills with a variety of academic challenges
10. Employ key learning points in real-world applications

Leadership of Others

1. Assess personal traits connected to integrity and ethical leadership
2. Pursue leadership and/or mentorship opportunities in the school and community
3. Reflect on conflict situations to strengthen ability to deal with the emotions that accompany conflict in leadership roles

RIGOROUS ACADEMIC PREPAREDNESS (11.AP)

Writing

1. (a) Develop writing skills related to expository writing, incorporating MLA or APA format
   (b) Gather information related to the writing prompt to generate a bank of resources and information
   (c) Compose first drafts with a focus on establishing a clear purpose for the writing
2. Utilize inquiry strategies to develop additional questions as needed
3. Independently create and execute a plan for the revision process
4. Analyze the language of the writing and edit for voice, flow, and clarity
5. Publish writing to an audience outside of the classroom, such as an online forum
6. (a) Take notes with an emphasis on selecting the appropriate format for note-taking based on the note-taking objective
   (b) Take notes with an emphasis on using strategies to organize notes (e.g., indentation, bullets, outlines, skipping lines, color-coding)
7. Reflect on how notes help to meet the learning objective and contribute to academic and personal success

Inquiry

1. Use questioning techniques to think critically about content and concepts
2. Generate questions based on a misunderstood concept or problem
3. Determine modifications to the process that would be needed to solve similar problems
4. Reflect on learning to make connections between new learning and the broader world
5. Reflect throughout learning on progress and continually adjust actions on major tasks or assignments
6. Reflect throughout a process on progress and continually adjust actions
7. Develop research questions/claim statements that effectively address the research prompt
8. Determine the perspective, validity, and reliability of information found within sources with the use of multiple sources (such as books, articles, and websites)
9. Synthesize information, sources, and data that support the research prompt
10. Construct written claims and support them with reasoning and evidence
11. Publish research to an audience outside of the classroom

Collaboration

1. Negotiate roles within a collaborative group through the adoption of effective elements of collaboration
2. Integrate multiple perspectives into group projects
3. Deepen relational capacity through the creation of novel ideas and solutions
4. Interact with peers in complex situations (providing feedback, conflict management, academic discourse) while maintaining a focus on respect, trust, and empathy
5. Support all group members' understanding of key concepts
6. Utilize technology to connect to the global community and to explore topics from multiple perspectives
7. Adjust ineffective verbal and nonverbal communication into effective communication
8. Demonstrate active listening skills by asking clarifying questions
9. Demonstrate command of grammar when communicating
10. Speak effectively before the whole class

Organization

1. (a) Develop efficient, individualized routines related to using organizational tools and planning strategies to enhance academic performance
   (b) Reflect on the use of an activity log or tracking system for community extracurricular activities and hours
2. (a) Understand and demonstrate the concepts and practices of backward mapping
   (b) Identify upcoming events to proactively avoid time-management conflicts
3. Create short- and mid-range goals that support achievement of long-term goals
4. Modify goals and actions appropriately based on progress
5. Manage varied visual frameworks to organize language and show relationships between key concepts

Reading

1. Select texts and justify how they meet the reading purpose
2. Build background knowledge related to the text preview
3. Connect vocabulary within texts to broader concepts in the text
4. Create text-dependent questions while reading that align with the reading purpose
5. Extend beyond the text by analyzing how to best apply key learning

OPPORTUNITY KNOWLEDGE (11.OK)

Advancing College Preparedness

1. Refine key personal attributes for academic, social, and financial fit related to college selection

2. (a) Reflect on current GPA and how it relates to choosing a college and career path
   (b) Compare various college campus structures, services, and opportunities
3. Research and evaluate scholarship offerings, including FAFSA
4. (a) Produce long-term academic plans that align with goals
   (b) Plan for a successful transition to the next step in the academic journey
   (c) Gain exposure to pathways offering work opportunities (credentials, certifications, internships, etc.)
5. (a) Engage in information gathering to determine match, reach, and safety schools in order to mitigate "summer melt" and undermatching during the selection process
   (b) Determine whether additional test prep and testing is needed to reach scholarship goals

Building Career Knowledge

1. (a) Develop an authentic and personal definition of success
   (b) Refine key personal attributes for academic, social, and financial fit related to career selection
2. (a) Gain awareness of how academic performance links to career performance and success
   (b) Expand thinking about potential career fields by encouraging discovery of a variety of career fields and the opportunities therein
   (c) Develop knowledge and gain exposure to transitional phases related to work life
3. Identify best-fit career fields based on academic, social, and financial fit to develop short- and long-term career pathways
4. Engage in real-world experiences within career fields of interest, such as service-learning projects, job-shadowing opportunities, or internship possibilities

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination 3 (AVID 3) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Students who are successful in this course will be on the appropriate pathway to success in AVID 4. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AVID 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 11

Advancement Via Individual Determination 4 (#1700420) 2020 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Major Concepts/Content: Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success, and it is scheduled during the regular school day as a year-long course. Each week, students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

The 12th grade AVID elective course is the second part in a junior/senior seminar course that focuses on the writing and critical thinking expected of first- and second-year college students. Students will complete a final research essay project with research skills gained in their junior year in AVID. In addition to the academic focus of the AVID senior seminar, there are college-bound activities, methodologies, and tasks that should be achieved during the senior year that supports students as they apply to four-year universities and confirm their postsecondary plans. All AVID seniors are required to develop and present a portfolio representing their years of work in the AVID program, as well as complete the requirements for the seminar course.

AVID curriculum books used:

AVID College and Careers

AVID College Readiness: Working with Sources

AVID Critical Thinking and Engagement

AVID Reading for Disciplinary Literacy

AVID Secondary Implementation Resource

AVID Tutorial Guide

AVID Writing for Disciplinary Literacy

Preparing for College

Supplemental materials course include the following:

AVID Weekly®, *Supporting Math in the AVID Elective*, *Write Path* content-area books, focused note-taking resources, and my.avid.org Curriculum Book Webpages

STUDENT OUTCOMES

Student Agency (SA)

- Student Empowerment
- Leadership of Others

Rigorous Academic Preparedness (AP)

- Writing
- Inquiry
- Collaboration
- Organization
- Reading

Opportunity Knowledge (OK)

- Advancing College Preparedness
- Building Career Knowledge

STUDENT AGENCY (12.SA)

Student Empowerment

1. Act as a globally and digitally aware, responsible, and contributing citizen
2. Evaluate the impact of decisions on others and the world
3. Attend to personal health, safety, and balance (including digital security)
4. Make appropriate personal financial choices
5. Generate and maintain a network of support for current and future success

6. Develop, demonstrate, and maintain motivation
7. Self-monitor and seek help when necessary
8. Demonstrate persistence, flexibility, and adaptability
9. Demonstrate self-awareness strategies and skills
10. Apply learning to demonstrate knowledge and achieve success

Leadership of Others

1. Demonstrate integrity and ethical leadership, including online
2. Pursue leadership opportunities and hold leadership positions
3. Manage and resolve conflict with others

RIGOROUS ACADEMIC PREPAREDNESS (12.AP)

Writing

1. Compose a variety of text types
2. Analyze a writing task
3. Revise writing to improve clarity and accomplish the writing purpose
4. Polish writing through editing and proofreading
5. Publish writing by distributing it to varied audiences
6. Take notes to meet the note-taking objective
7. Summarize and reflect to synthesize learning and identify next steps

Inquiry

1. Use questioning techniques to engage in discussions and think critically about content and concepts
2. Identify specific questions based on a misunderstood concept or problem
3. Upon arriving at a solution, identify generalized steps/processes that could be used to solve similar problems
4. Make connections between new learning and previous learning, experiences, self, and/or the world
5. Continuously reflect and modify actions to promote learning and academic success
6. Reflect on and modify actions related to successful utilization of a process
7. Identify topics/questions to be investigated and include source material on opposing sides of the topic
8. Evaluate the validity and reliability of both digital and print sources
9. Synthesize and organize information effectively, including usage of digital tools
10. Cite evidence and support claims
11. Present research findings, customizing the presentation for the intended audience

Collaboration

1. Share responsibility among group members
2. Work productively and effectively in diverse teams with diverse perspectives
3. Establish and maintain relational capacity with others
4. Respect individual contributions
5. Support group members in clarifying confusion and checking for understanding
6. Utilize technology as a tool for collaboration both synchronously and asynchronously
7. Clearly communicate verbally and nonverbally, including appropriate usage of technology
8. Listen effective to decipher meaning
9. Demonstrate a command of language and grammar usage when communicating
10. Adapt speech to a variety of contexts and communicative tasks

Organization

1. Routinely utilize organizational systems to access and archive materials efficiently
2. Organize and allocate time based on priorities and task completion
3. Identify and plan for the steps necessary to accomplish various types of goals
4. Monitor progress toward goals and revise appropriately, leveraging technology
5. Organize information, indicating relationships between ideas

Reading

1. Select a text according to the reading purpose
2. Preview text to connect or build background knowledge
3. Examine key academic and content-related vocabulary to deepen comprehension of texts
4. Interact with the text to process information as it is read
5. Extend beyond the text by using academic thinking skills (applying, analyzing, evaluating, and/or synthesizing key learning)

OPPORTUNITY KNOWLEDGE (12.OK)

Advancing College Preparedness

1. Develop an awareness of personal abilities, skills, and interests related to college selection
2. Expand understanding around key college information
3. understand scholarships and the role they play in financing college
4. Plan a path for education and college aligned to personal goals
5. Complete college admission requirements, including testing and application

Building Career Knowledge

1. Develop an awareness of personal abilities, skills and interests related to career and career selection
2. Expand understanding around key career-related information
3. Develop skills and attitudes related to career readiness
4. Plan a path for education and career aligned to personal goals

GENERAL NOTES

Special Note: Skills acquired in this course will be implemented by the student across the curriculum. Advancement Via Individual Determination 4 (AVID 4) is a rigorous course offered by AVID Center, and content must be provided as specified by AVID Center. Teachers must receive training from AVID Center to teach this course.

Trained AVID Elective teachers may visit avid.org, and log into their MyAVID account using their AVID username and password; then follow my.avid.org/file_sharing/default.aspx?id=24544 to access the AVID Weeks at a Glance curriculum and resources for grades 6-12.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

VERSION REQUIREMENTS

These requirements include, but are not limited to, the Florida Standards that are most relevant to this course. Standards correlated with a specific course requirement may also be addressed by other course requirements as appropriate. Some requirements in this course are not addressed in the Florida Standards. Other subject areas and content may be used to fulfill course requirements. This course includes an agreement related to minimum standards for behavior, attendance, and participation.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AVID 4

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 12

Advanced Placement Capstone Seminar (#1700500) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AP CAPSTONE SEMINAR

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Advanced Placement Capstone Research (#1700510) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 1700510

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: AP CAPSTONE RESEARCH

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

GEAR Up 1 (#1700600) 2020 - 2022 (current)

Course Standards

The following standards are also included in this course to support students' understanding of the course objectives.

- Evaluate the impact of decisions on others.
- Establish understanding of concepts and content-specific vocabulary related to personal finance.
- Identify the characteristics of positive, healthy relationships.
- Explore individual peer relationships and identify those that are positive and healthy.
- Demonstrate an understanding of positive self-worth and recognize limits in the emotional capacity of individuals.
- Identify personal attributes as areas of strength or weakness; Differentiate between individual strengths and weaknesses as motivators and/or limiters.
- Celebrate self-advocacy as a personal strength.
- Accept weaknesses as an opportunity for change.
- Select tools to analyze a conflict and identify a positive solution.
- Classify passive, assertive, and aggressive statements.
- Establish norms and expectations around shared responsibility among group members.
- Distinguish between effective and ineffective language during interactions.
- Refine usage of non-verbal communication when speaking, including body language and eye contact.

Name	Description
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other

	mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.910.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.K.SL.1.1:	Participate in collaborative conversations with diverse partners about *kindergarten topics* and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges.
SS.912.E.1.13:	Explain the basic functions and characteristics of money, and describe the composition of the money supply in the United States.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
SS.912.P.12.4:	Describe obstacles to problem solving. **Clarifications:** Examples may include, but are not limited to, fixation and functional fixedness.
SS.912.P.12.5:	Describe obstacles to decision making. **Clarifications:** Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.5.4:	Assess whether individual or collaborative decision making is needed to make a healthy decision. **Clarifications:** Planning a post-high school career/education, purchasing the family's groceries for the week, planning the weekly menu, planning appropriate activities for siblings, community planning, Internet safety, and purchasing insurance.
HE.912.B.5.5:	Examine barriers that can hinder healthy decision making. **Clarifications:** Interpersonal, financial, environmental factors, and accessibility of health information.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is a program designed to increase students' aspirations toward high school and beyond and ultimately increase the number of students who are prepared to enter and succeed in postsecondary education.

The purpose of this course is to prepare students for college readiness and success. Students will receive instruction, supported by state standards, in areas that include:

- **Student Agency** - activities that focus on student initiative, problem solving, decision making, leadership, and community involvement;
- **Rigorous Academic Preparedness -** academic success skills with activities that focus on writing, mathematics, collaboration, public speaking, and organization; and
- **College and Careers** - activities related to college preparation and building career knowledge.

This course will target students in the academic middle with the desire to attend college and the willingness to work hard. Through participation in this course, students will be well equipped to access and complete rigorous courses with the end goal being matriculation into and completion of postsecondary educational programs.

Eligibility for this course could be be determined by the student's grade 8 FSA scores and Lexile levels. Students scoring at FSA Levels 2/3 and with a Lexile level = 680 could be given priority for this course.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700600

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: GEAR UP 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

GEAR Up 2 (#1700610) 2020 - 2022 (current)

Course Standards

The following standards are also included in this course to support students' understanding of the course objectives.

- Evaluate the impact of decisions on others.
- Increase awareness and apply basic concepts of budgeting, spending, and making responsible financial decisions.
- Develop a support network, including peers and adults, for academic and future success.
- Demonstrate an understanding of positive self-worth and recognize limits in the emotional capacity of individuals.
- Identify personal attributes as areas of strength or weakness; Differentiate between individual strengths and weaknesses as motivators and/or limiters.
- Celebrate self-advocacy as a personal strength.
- Accept weaknesses as an opportunity for change.
- Identify personal conflict management style.
- Transform passive and aggressive statements into constructive, assertive statements.
- Hold self and peers accountable for following group norms about shared responsibility.
- Distinguish between effective and ineffective language during interactions.
- Refine usage of non-verbal communication when speaking, including body language and eye contact.

Name	Description
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify

	relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.910.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.K12.SL.1.1:	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
SS.912.E.1.13:	Explain the basic functions and characteristics of money, and describe the composition of the money supply in the United States.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
SS.912.P.12.4:	Describe obstacles to problem solving. **Clarifications:** Examples may include, but are not limited to, fixation and functional fixedness.
SS.912.P.12.5:	Describe obstacles to decision making. **Clarifications:** Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.5.4:	Assess whether individual or collaborative decision making is needed to make a healthy decision. **Clarifications:** Planning a post-high school career/education, purchasing the family's groceries for the week, planning the weekly menu, planning appropriate activities for siblings, community planning, Internet safety, and purchasing insurance.
HE.912.B.5.5:	Examine barriers that can hinder healthy decision making. **Clarifications:** Interpersonal, financial, environmental factors, and accessibility of health information.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is a program designed to increase students' aspirations toward high school and beyond and ultimately increase the number of students who are prepared to enter and succeed in postsecondary education.

The purpose of this course is to prepare students for college readiness and success. Students will receive instruction, supported by state standards, in areas that include:

- **Student Agency** - activities that focus on student initiative, problem solving, decision making, leadership, and community involvement;
- **Rigorous Academic Preparedness -** academic success skills with activities that focus on writing, mathematics, collaboration, public speaking, and organization; and
- **College and Careers** - activities related to college preparation and building career knowledge.

This course will target students in the academic middle with the desire to attend college and the willingness to work hard. Through participation in this course, students will be well equipped to access and complete rigorous courses with the end goal being matriculation into and completion of postsecondary educational programs.

Eligibility for this course could be be determined by the student's grade 9 FSA scores and Lexile levels. Students scoring at FSA Levels 2/3 and with a Lexile level = 680 could be given priority for this course.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700610

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: GEAR UP 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

GEAR Up 3 (#1700620) 2020 - 2022 (current)

Course Standards

The following standards are also included in this course to support students' understanding of the course objectives.

- Evaluate the impact of decisions on others.
- Create a systematic decision-making model for personal financial decisions and circumstances.
- Maintain a strong support network for academic and career success.
- Identify mentors who influence, support, and guide future transitions and success.
- Demonstrate an understanding of positive self-worth and recognize limits in the emotional capacity of individuals.
- Identify personal attributes as areas of strength or weakness.
- Differentiate between individual strengths and weaknesses as motivators and/or limiters.
- Celebrate self-advocacy as a personal strength.
- Accept weaknesses as an opportunity for change.
- Reflect on conflict situations to strengthen ability to deal with the emotions that accompany conflict in leadership roles.
- Negotiate roles within a collaborative group through the adoption of effective elements of collaboration.
- Adjust ineffective verbal and non-verbal communication into effective communication.
- Speak effectively before whole class.

Name	Description
LAFS.1112.W.1.1:	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.1112.W.1.2:	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.1112.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.1112.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.K12.SL.1.1:	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different

	method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
SS.912.E.1.13:	Explain the basic functions and characteristics of money, and describe the composition of the money supply in the United States.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
SS.912.P.12.4:	Describe obstacles to problem solving. **Clarifications:** Examples may include, but are not limited to, fixation and functional fixedness.

SS.912.P.12.5:	Describe obstacles to decision making. **Clarifications:** Examples may include, but are not limited to, confirmation bias, counterproductive heuristics, and overconfidence.
HE.912.B.4.3:	Demonstrate strategies to prevent, manage, or resolve interpersonal conflicts without harming self or others. **Clarifications:** Effective verbal and nonverbal communication, compromise, and conflict-resolution.
HE.912.B.5.4:	Assess whether individual or collaborative decision making is needed to make a healthy decision. **Clarifications:** Planning a post-high school career/education, purchasing the family's groceries for the week, planning the weekly menu, planning appropriate activities for siblings, community planning, Internet safety, and purchasing insurance.
HE.912.B.5.5:	Examine barriers that can hinder healthy decision making. **Clarifications:** Interpersonal, financial, environmental factors, and accessibility of health information.
PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is a program designed to increase students' aspirations toward high school and beyond and ultimately increase the number of students who are prepared to enter and succeed in postsecondary education.

The purpose of this course is to prepare students for college readiness and success. Students will receive instruction, supported by state standards, in areas that include:

- **Student Agency** - activities that focus on student initiative, problem solving, decision making, leadership, and community involvement;
- **Rigorous Academic Preparedness -** academic success skills with activities that focus on writing, mathematics, collaboration, public speaking, and organization; and
- **College and Careers** - activities related to college preparation and building career knowledge.

This course will target students in the academic middle with the desire to attend college and the willingness to work hard. Through participation in this course, students will be well equipped to access and complete rigorous courses with the end goal being matriculation into and completion of postsecondary educational programs.

Eligibility for this course could be be determined by the student's grade 10 FSA scores and Lexile levels. Students scoring at FSA Levels 2/3 and with a Lexile level = 680 could be given priority for this course.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700620

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: GEAR UP 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

GEAR Up 4 (#1700630) 2020 - 2022 (current)

Course Standards

The following standards are also included in this course to support students' understanding of the course objectives.

- Evaluate the impact of decisions on others.
- Make appropriate personal financial choices.
- Generate and maintain a network of support for current and future success.
- Demonstrate an understanding of positive self-worth and recognize limits in the emotional capacity of individuals.
- Identify personal attributes as areas of strength or weakness.
- Differentiate between individual strengths and weaknesses as motivators and/or limiters.
- Celebrate self-advocacy as a personal strength.
- Accept weaknesses as an opportunity for change.
- Manage and resolve conflicts with others.
- Share responsibility among group members.
- Clearly communicate verbally and non-verbally, including appropriate usage of technology.
- Demonstrate command of language and grammar usage when communicating.
- Adapt speech to a variety of contexts and communicative tasks.

Name	Description
LAFS.1112.W.1.1:	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.1112.W.1.2:	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.1112.W.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LAFS.1112.W.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.W.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.K12.SL.1.1:	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different

	method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
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SS.912.E.1.13:	Explain the basic functions and characteristics of money, and describe the composition of the money supply in the United States.
SS.912.P.12.2:	Define processes involved in problem solving and decision making. **Clarifications:** Examples may include, but are not limited to, identification, analysis, solution generation, plan, implement, and evaluate.
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PE.912.C.2.20:	Identify appropriate methods to resolve physical conflict.
PE.912.L.3.3:	Identify a variety of activities that promote effective stress management.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

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The purpose of this course is to prepare students for college readiness and success. Students will receive instruction, supported by state standards, in areas that include:

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- **College and Careers** - activities related to college preparation and building career knowledge.

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Eligibility for this course could be be determined by the student's grade 10 FSA scores and Lexile levels. Students scoring at FSA Levels 2/3 and with a Lexile level = 680 could be given priority for this course.

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Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any field when certification reflects a bachelor or higher degree.

GENERAL INFORMATION

Course Number: 1700630

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >
Abbreviated Title: GEAR UP 4

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

International Baccalaureate Approaches to Learning (#1700800) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1700800

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: IB APPROACH TO LRNG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Educator Certifications

Humanities (Elementary and Secondary Grades K-12)
English (Grades 6-12)
Biology (Grades 6-12)
Social Science (Grades 6-12)

International Baccalaureate Approaches to Learning 2 (#1700810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1700810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: IB APPROACH TO LRNG2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Educator Certifications

Humanities (Elementary and Secondary Grades K-12)
English (Grades 6-12)
Biology (Grades 6-12)
Social Science (Grades 6-12)

International Baccalaureate Personal & Professional Skills 1 (#1700820) 2016 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1700820

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: IB PERS & PROF SKLS1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Educator Certifications

Humanities (Elementary and Secondary Grades K-12)
English (Grades 6-12)
Biology (Grades 6-12)
Social Science (Grades 6-12)
Economics (Grades 6-12)
Business Education (Grades 6-12)

IB Personal and Professional Skills 2 (#1700830) 2017 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 1700830

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Research and Critical Thinking > **SubSubject:** General >

Abbreviated Title: IB PERS & PROF SKLS2

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

English (Grades 6-12)
Humanities (Elementary and Secondary Grades K-12)
Biology (Grades 6-12)
Social Science (Grades 6-12)
Economics (Grades 6-12)
Business Education (Grades 6-12)

M/J Life Science (#2000010) 2015 - 2022 (current)

Course Standards

Use grade appropriate Nature of Science benchmarks (i.e. if this course is offered to sixth grade students, then the SC.6.N benchmarks should be integrated into the sixth grade course, and SC.7.N and SC.8.N benchmarks should be omitted from the sixth grade course).

Name	Description
SC.6.L.14.1:	Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
SC.6.L.14.2:	Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
SC.6.L.14.3:	Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
SC.6.L.14.4:	Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.
SC.6.L.14.5:	Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.
SC.6.L.14.6:	Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.
SC.6.L.15.1:	Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.7.L.15.1:	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.
SC.7.L.15.2:	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.
SC.7.L.15.3:	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.
SC.7.L.16.1:	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.
SC.7.L.16.2:	Determine the probabilities for genotype and phenotype combinations using Punnett Squares and pedigrees.
SC.7.L.16.3:	Compare and contrast the general processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis.
SC.7.L.16.4:	Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.
SC.7.L.17.1:	Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
SC.7.L.17.2:	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.
SC.7.L.17.3:	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.

SC.8.L.18.1:	Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.
SC.8.L.18.2:	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.
SC.8.L.18.3:	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.
SC.8.L.18.4:	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.6.SL.2.5:	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship

MAFS.6.EE.3.9:	between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**

MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.6.C.1.8:	Examine the likelihood of injury or illness if engaging in unhealthy/risky behaviors. **Clarifications:** Obesity related to poor nutrition and inactivity, cancer and chronic lung disease related to tobacco use, injuries caused from failure to use seat restraint, and sexually transmitted diseases caused by sexual activity.
HE.7.C.1.3:	Analyze how environmental factors affect personal health. **Clarifications:** Food refrigeration, appropriate home heating and cooling, air/water quality, and garbage/trash collection.
HE.7.C.1.7:	Describe how heredity can affect personal health. **Clarifications:** Sickle-cell anemia, diabetes, and acne.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2000010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: M/J LIF SCI

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Middle Grades General Science (Middle Grades 5-9)
Biology (Grades 6-12)

M/J Life Science, Advanced (#2000020) 2015 - 2022 (current)

Course Standards

Use grade appropriate Nature of Science benchmarks (i.e. if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the seventh grade course, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Name	Description
SC.6.L.14.1:	Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
SC.6.L.14.2:	Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
SC.6.L.14.3:	Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
SC.6.L.14.4:	Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.
SC.6.L.14.5:	Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.
SC.6.L.14.6:	Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.
SC.6.L.15.1:	Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.7.L.15.1:	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.
SC.7.L.15.2:	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.
SC.7.L.15.3:	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.
SC.7.L.16.1:	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.
SC.7.L.16.2:	Determine the probabilities for genotype and phenotype combinations using Punnett Squares and pedigrees.
SC.7.L.16.3:	Compare and contrast the general processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis.
SC.7.L.16.4:	Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.
SC.7.L.17.1:	Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
SC.7.L.17.2:	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.
SC.7.L.17.3:	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.

SC.8.L.18.1:	Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.
SC.8.L.18.2:	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.
SC.8.L.18.3:	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.
SC.8.L.18.4:	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
	Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or

MAFS.K12.MP.4.1:	use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.6.C.1.8:	Examine the likelihood of injury or illness if engaging in unhealthy/risky behaviors. **Clarifications:** Obesity related to poor nutrition and inactivity, cancer and chronic lung disease related to tobacco use, injuries caused from failure to use seat restraint, and sexually transmitted diseases caused by sexual activity.
HE.7.C.1.3:	Analyze how environmental factors affect personal health. **Clarifications:** Food refrigeration, appropriate home heating and cooling, air/water quality, and garbage/trash collection.
HE.7.C.1.7:	Describe how heredity can affect personal health. **Clarifications:** Sickle-cell anemia, diabetes, and acne.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2000020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >
Abbreviated Title: M/J LIF SCI ADV
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval
Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Middle Grades General Science (Middle Grades 5-9)
Biology (Grades 6-12)

M/J STEM Life Science (#2000025) 2015 - 2022 (current)

Course Standards

Name	Description
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.7.L.15.1:	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.
SC.7.L.15.2:	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.
SC.7.L.15.3:	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.
SC.7.L.16.1:	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.8.L.18.2:	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.
SC.8.L.18.3:	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.
SC.8.L.18.4:	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
MAFS.6.SP.1.1:	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
MAFS.6.SP.1.2:	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

MAFS.8.SP.1.2:	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x$

	+ 1), $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
HE.6.C.1.8:	Examine the likelihood of injury or illness if engaging in unhealthy/risky behaviors. **Clarifications:** Obesity related to poor nutrition and inactivity, cancer and chronic lung disease related to tobacco use, injuries caused from failure to use seat restraint, and sexually transmitted diseases caused by sexual activity.
HE.7.C.1.3:	Analyze how environmental factors affect personal health. **Clarifications:** Food refrigeration, appropriate home heating and cooling, air/water quality, and garbage/trash collection.
HE.7.C.1.7:	Describe how heredity can affect personal health. **Clarifications:** Sickle-cell anemia, diabetes, and acne.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

GENERAL NOTES

If this course is to be used in a STEM sequence in place of either the comprehensive or subject specific course sequences, teachers should refer to the test item specifications for the 8th grade SSA for information on tested standards which can be found at: fldoe.org/core/fileparse.php/5663/urlt/swsatisG8.pdf.

This course is an integrated Science, Technology, Engineering and Mathematics (STEM) course for middle school students. M/J STEM Life Science includes an integration of standards from science, mathematics, and english language arts (ELA) through the application to STEM problem solving using life science knowledge and science and engineering practices. Life science through applications such as biotechnology and biomedical engineering, are emphasized in this course. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

ISTE Standards (iste.org/docs/pdfs/20-14_ISTE_Standards-S_PDF.pdf) should be incorporated in many contexts throughout the course.

Engineering Practices are emphasized in the course
nextgenscience.org/sites/ngss/files/Appendix%20F%20%20Science%20and%20Engineering%20Practices%20in%20the%20NGSS%20-%20FINAL%20060513.pdf

Course Standards

NOTE: Use grade appropriate Nature of Science and mathematics content benchmarks (i.e. if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 2000025

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >
Abbreviated Title: M/J STEM LIFE SCI
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Type: Core Academic Course
Course Level: 2
Course Status: Draft - Course Pending Approval
Grade Level(s): 6,7,8

Educator Certifications

Earth/Space Science (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Biology (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)

M/J International Baccalaureate MYP Life Science (#2000030) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 2000030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: M/J IB MYP LIFE SCI

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Middle Grades General Science (Middle Grades 5-9)
Biology (Grades 6-12)

M/J International Baccalaureate MYP Biology (#2000050) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 2000050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: M/J IB MYP BIOLOGY

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Middle Grades General Science (Middle Grades 5-9)
Biology (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Science (Secondary Grades 7-12)

M/J Science Transfer (#2000220) 2015 - 2022 (current)

Course Standards

Name	Description
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 2000220

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: M/J SCI TRAN

Course Length: Not Applicable

Course Type: Transfer Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Biology 1 (#2000310) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.

SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.

	c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to

	identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2000310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >
Abbreviated Title: BIO 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Biology

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Equivalent Courses

2000320-Biology 1 Honors
2000430-Biology Technology
2000322-Cambridge Pre-AICE Biology IGCSE Level
2000800-Florida's Preinternational Baccalaureate Biology 1

Biology 1 for Credit Recovery (#2000315) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.

SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.

	c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
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MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to

	identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Special Notes: Credit Recovery courses are credit bearing courses with specific content requirements defined by Next Generation Sunshine State Standards and/or Florida Standards. Students enrolled in a Credit Recovery course must have previously attempted the corresponding course (and/or End-of-Course assessment) since the course requirements for the Credit Recovery course are exactly the same as the previously attempted corresponding course. For example, Geometry (1206310) and Geometry for Credit Recovery (1206315) have identical content requirements. It is important to note that Credit Recovery courses are not bound by Section 1003.436(1)(a), Florida Statutes, requiring a minimum of 135 hours of bona fide instruction (120 hours in a school/district implementing block scheduling) in a designed course of study that contains student performance standards, since the students have previously attempted successful completion of the corresponding course. Additionally, Credit Recovery courses should ONLY be used for credit recovery, grade forgiveness, or remediation for students needing to prepare for an End-of-Course assessment retake.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000315

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: BIO 1 CR

Number of Credits: One (1) credit

Course Length: Credit Recovery (R)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Biology 1 Honors (#2000320) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.5:	Explain the evidence supporting the scientific theory of the origin of eukaryotic cells (endosymbiosis).
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.27:	Identify the functions of the major parts of the brain, including the meninges, medulla, pons, midbrain, hypothalamus, thalamus, cerebellum and cerebrum.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.2:	Discuss the use of molecular clocks to estimate how long ago various groups of organisms diverged evolutionarily from one another.
SC.912.L.15.3:	Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.15:	Compare and contrast binary fission and mitotic cell division.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.

SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.2:	Describe the important structural characteristics of monosaccharides, disaccharides, and polysaccharides and explain the functions of carbohydrates in living things.
SC.912.L.18.3:	Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.
SC.912.L.18.4:	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

LAFS.910.SL.1.1:	b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently,

	express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
HE.912.C.1.8:	Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. **Clarifications:** Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Biology I course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2000320

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Biology

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: BIO 1 HON

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Equivalent Courses

2000310-Biology 1

Cambridge AICE Biology 1 AS Level (#2000321) 2018 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2000321

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: AICE BIO 1 AS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000321-Cambridge AICE Biology 1 AS Level
Equivalency end year: 2018

Cambridge Pre-AICE Biology IGCSE Level (#2000322) 2014

- And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 2000322

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Biology

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: PRE-AICE BIO IG

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000310-Biology 1

Cambridge AICE Biology 2 A Level (#2000323) 2018 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2000323

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: AICE BIO 2 AL

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Biology (Grades 6-12)
Science (Secondary Grades 7-12)

Equivalent Courses

2000323-Cambridge AICE Biology 2 A Level
Equivalency end year: 2018

Biology 2 Honors (#2000330) 2018 - 2022 (current)

Course Standards

Name	Description
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.8:	Explain alternation of generations in plants.
SC.912.L.14.9:	Relate the major structure of fungi to their functions.
SC.912.L.14.50:	Describe the structure of vertebrate sensory organs. Relate structure to function in vertebrate sensory systems.
SC.912.L.14.53:	Discuss basic classification and characteristics of plants. Identify bryophytes, pteridophytes, gymnosperms, and angiosperms.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.7:	Discuss distinguishing characteristics of vertebrate and representative invertebrate phyla, and chordate classes using typical examples.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.9:	Explain the role of reproductive isolation in the process of speciation.
SC.912.L.15.11:	Discuss specific fossil hominids and what they show about human evolution.
SC.912.L.16.6:	Discuss the mechanisms for regulation of gene expression in prokaryotes and eukaryotes at transcription and translation level.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.16.15:	Compare and contrast binary fission and mitotic cell division.
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.12:	Discuss the political, social, and environmental consequences of sustainable use of land.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.14:	Assess the need for adequate waste management strategies.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.17.18:	Describe how human population size and resource use relate to environmental quality.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.5:	Discuss the use of chemiosmotic gradients for ATP production in chloroplasts and mitochondria.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an

	organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.10:	Describe oxidation-reduction reactions in living and non-living systems.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships

	between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:**

	Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x$

	– y)² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a

relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: BIO 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Pre-Advanced Placement Biology (#2000335) 2018 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The course description for this Pre-Advanced Placement (Pre-AP) course is located on the College Board site at pre-ap.collegeboard.org/courses.

GENERAL INFORMATION

Course Number: 2000335

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** PRE-AP BIOLOGY

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9

Educator Certifications

Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Science (Secondary Grades 7-12)

Advanced Placement Biology (#2000340) 2018 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2000340

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: AP BIO

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000340-Advanced Placement Biology
Equivalency end year: 2018

Anatomy and Physiology (#2000350) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.14.11:	Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
SC.912.L.14.12:	Describe the anatomy and histology of bone tissue.
SC.912.L.14.13:	Distinguish between bones of the axial skeleton and the appendicular skeleton.
SC.912.L.14.14:	Identify the major bones of the axial and appendicular skeleton.
SC.912.L.14.16:	Describe the anatomy and histology, including ultrastructure, of muscle tissue.
SC.912.L.14.17:	List the steps involved in the sliding filament of muscle contraction.
SC.912.L.14.18:	Describe signal transmission across a myoneural junction.
SC.912.L.14.20:	Identify the major muscles of the human on a model or diagram.
SC.912.L.14.21:	Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.
SC.912.L.14.23:	Identify the parts of a reflex arc.
SC.912.L.14.24:	Identify the general parts of a synapse and describe the physiology of signal transmission across a synapse.
SC.912.L.14.25:	Identify the major parts of a cross section through the spinal cord.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.28:	Identify the major functions of the spinal cord.
SC.912.L.14.29:	Define the terms endocrine and exocrine.
SC.912.L.14.30:	Compare endocrine and neural controls of physiology.
SC.912.L.14.32:	Describe the anatomy and physiology of the endocrine system.
SC.912.L.14.33:	Describe the basic anatomy and physiology of the reproductive system.
SC.912.L.14.34:	Describe the composition and physiology of blood, including that of the plasma and the formed elements.
SC.912.L.14.35:	Describe the steps in hemostasis, including the mechanism of coagulation. Include the basis for blood typing and transfusion reactions.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.38:	Describe normal heart sounds and what they mean.
SC.912.L.14.39:	Describe hypertension and some of the factors that produce it.
SC.912.L.14.41:	Describe fetal circulation and changes that occur to the circulatory system at birth.
SC.912.L.14.42:	Describe the anatomy and the physiology of the lymph system.
SC.912.L.14.44:	Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.
SC.912.L.14.46:	Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.
SC.912.L.14.47:	Describe the physiology of urine formation by the kidney.
SC.912.L.14.49:	Identify the major functions associated with the sympathetic and parasympathetic nervous systems.
SC.912.L.14.50:	Describe the structure of vertebrate sensory organs. Relate structure to function in vertebrate sensory systems.
SC.912.L.14.51:	Describe the function of the vertebrate integumentary system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch

MAFS.912.F-IF.2.4:	graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized

	or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2000350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** ANAT PHYSIO

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12,30,31

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Health (Elementary and Secondary Grades K-12)
Health Education (Secondary Grades 7-12)

Anatomy and Physiology Honors (#2000360) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.14.11:	Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
SC.912.L.14.12:	Describe the anatomy and histology of bone tissue.
SC.912.L.14.13:	Distinguish between bones of the axial skeleton and the appendicular skeleton.
SC.912.L.14.14:	Identify the major bones of the axial and appendicular skeleton.
SC.912.L.14.15:	Identify major markings (such as foramina, fossae, tubercles, etc.) on a skeleton. Explain why these markings are important.
SC.912.L.14.16:	Describe the anatomy and histology, including ultrastructure, of muscle tissue.
SC.912.L.14.17:	List the steps involved in the sliding filament of muscle contraction.
SC.912.L.14.18:	Describe signal transmission across a myoneural junction.
SC.912.L.14.19:	Explain the physiology of skeletal muscle.
SC.912.L.14.20:	Identify the major muscles of the human on a model or diagram.
SC.912.L.14.21:	Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.
SC.912.L.14.22:	Describe the physiology of nerve conduction, including the generator potential, action potential, and the synapse.
SC.912.L.14.23:	Identify the parts of a reflex arc.
SC.912.L.14.25:	Identify the major parts of a cross section through the spinal cord.
SC.912.L.14.27:	Identify the functions of the major parts of the brain, including the meninges, medulla, pons, midbrain, hypothalamus, thalamus, cerebellum and cerebrum.
SC.912.L.14.28:	Identify the major functions of the spinal cord.
SC.912.L.14.29:	Define the terms endocrine and exocrine.
SC.912.L.14.30:	Compare endocrine and neural controls of physiology.
SC.912.L.14.31:	Describe the physiology of hormones including the different types and the mechanisms of their action.
SC.912.L.14.34:	Describe the composition and physiology of blood, including that of the plasma and the formed elements.
SC.912.L.14.35:	Describe the steps in hemostasis, including the mechanism of coagulation. Include the basis for blood typing and transfusion reactions.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.37:	Explain the components of an electrocardiogram.
SC.912.L.14.38:	Describe normal heart sounds and what they mean.
SC.912.L.14.39:	Describe hypertension and some of the factors that produce it.
SC.912.L.14.40:	Describe the histology of the major arteries and veins of systemic, pulmonary, hepatic portal, and coronary circulation.
SC.912.L.14.41:	Describe fetal circulation and changes that occur to the circulatory system at birth.
SC.912.L.14.42:	Describe the anatomy and the physiology of the lymph system.
SC.912.L.14.43:	Describe the histology of the respiratory system.
SC.912.L.14.44:	Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.
SC.912.L.14.45:	Describe the histology of the alimentary canal and its associated accessory organs.
SC.912.L.14.46:	Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.
SC.912.L.14.47:	Describe the physiology of urine formation by the kidney.
SC.912.L.14.48:	Describe the anatomy, histology, and physiology of the ureters, the urinary bladder and the urethra.
SC.912.L.14.49:	Identify the major functions associated with the sympathetic and parasympathetic nervous systems.
SC.912.L.14.50:	Describe the structure of vertebrate sensory organs. Relate structure to function in vertebrate sensory systems.
SC.912.L.14.51:	Describe the function of the vertebrate integumentary system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.18.2:	Describe the important structural characteristics of monosaccharides, disaccharides, and polysaccharides and explain the functions of carbohydrates in living things.
SC.912.L.18.3:	Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.
SC.912.L.18.4:	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
SC.912.L.18.6:	Discuss the role of anaerobic respiration in living things and in human society.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,**

SC.912.N.1.1:	4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.

	e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

	Standard Relation to Course: Supporting
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
	Evaluate how environment and personal health are interrelated.

HE.912.C.1.3:	**Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Anatomy and Physiology course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2000360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: ANAT PHYSIO HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Health (Elementary and Secondary Grades K-12)
Health Education (Secondary Grades 7-12)

Botany (#2000370) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.5:	Explain the evidence supporting the scientific theory of the origin of eukaryotic cells (endosymbiosis).
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.8:	Explain alternation of generations in plants.
SC.912.L.14.9:	Relate the major structure of fungi to their functions.
SC.912.L.14.10:	Discuss the relationship between the evolution of land plants and their anatomy.
SC.912.L.14.53:	Discuss basic classification and characteristics of plants. Identify bryophytes, pteridophytes, gymnosperms, and angiosperms.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.3:	Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.

SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.5:	Discuss the use of chemiosmotic gradients for ATP production in chloroplasts and mitochondria.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**

	Construct viable arguments and critique the reasoning of others.
MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
	Model with mathematics.
MAFS.K12.MP.4.1:	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically.
MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision.
MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure.
MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
	Look for and express regularity in repeated reasoning.
MAFS.K12.MP.8.1:	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be

in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000370

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** BOTANY

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Ecology (#2000380) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
SC.912.L.15.12:	List the conditions for Hardy-Weinberg equilibrium in a population and why these conditions are not likely to appear in nature. Use the Hardy-Weinberg equation to predict genotypes in a population from observed phenotypes.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent

SC.912.N.1.1:	observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others.

MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the

laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** ECOLOGY

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Zoology (#2000410) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
SC.912.L.14.5:	Explain the evidence supporting the scientific theory of the origin of eukaryotic cells (endosymbiosis).
SC.912.L.14.12:	Describe the anatomy and histology of bone tissue.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.44:	Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.
SC.912.L.14.50:	Describe the structure of vertebrate sensory organs. Relate structure to function in vertebrate sensory systems.
SC.912.L.14.51:	Describe the function of the vertebrate integumentary system.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.3:	Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.7:	Discuss distinguishing characteristics of vertebrate and representative invertebrate phyla, and chordate classes using typical examples.
SC.912.L.15.11:	Discuss specific fossil hominids and what they show about human evolution.

SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to

MAFS.K12.MP.3.1:	the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** ZOOLOGY

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Biology Technology (#2000430) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.6:	Discuss the mechanisms for regulation of gene expression in prokaryotes and eukaryotes at transcription and translation level.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.6:	Discuss the role of anaerobic respiration in living things and in human society.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.

SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

LAFS.910.WHST.1.2:	b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.6:	Evaluate the relationship between access to health care and health status. **Clarifications:** Early detection and treatment of cancer, HIV, diabetes, bipolar disorder, schizophrenia, childhood disease or illness, and first-responder care.
HE.912.C.1.8:	Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. **Clarifications:** Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.

- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000430

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** BIO TECH

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Biology

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000310-Biology 1

Genetics Honors (#2000440) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.9:	Explain the role of reproductive isolation in the process of speciation.
SC.912.L.15.12:	List the conditions for Hardy-Weinberg equilibrium in a population and why these conditions are not likely to appear in nature. Use the Hardy-Weinberg equation to predict genotypes in a population from observed phenotypes.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.6:	Discuss the mechanisms for regulation of gene expression in prokaryotes and eukaryotes at transcription and translation level.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch

MAFS.912.F-IF.2.4:	graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
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MAFS.K12.MP.3.1:	arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.

General Course Information and Notes

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000440

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** GENETICS HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Bioscience 1 Honors (#2000500) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.6:	Discuss the mechanisms for regulation of gene expression in prokaryotes and eukaryotes at transcription and translation level.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.2:	Describe the important structural characteristics of monosaccharides, disaccharides, and polysaccharides and explain the functions of carbohydrates in living things.
SC.912.L.18.3:	Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.

SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.8.13:	Identify selected functional groups and relate how they contribute to properties of carbon compounds.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications

	or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.F-LE.1.1:	Distinguish between situations that can be modeled with linear functions and with exponential functions. ★ a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.2:	Define appropriate quantities for the purpose of descriptive modeling. ★ **Clarifications:** **Algebra 1 Content Notes:** Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different

	method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**

HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.8:	Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. **Clarifications:** Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.
SS.912.C.2.4:	Evaluate, take, and defend positions on issues that cause the government to balance the interests of individuals with the public good.
SS.912.C.2.8:	Analyze the impact of citizen participation as a means of achieving political and social change. **Clarifications:** Examples are e-mail campaigns, boycotts, blogs, podcasts, protests, demonstrations, letters to editors.
SS.912.C.2.13:	Analyze various forms of political communication and evaluate for bias, factual accuracy, omission, and emotional appeal. **Clarifications:** Examples are political cartoons, propaganda, campaign advertisements, political speeches, electronic bumper stickers, blogs, media.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007). Bioscience I is a laboratory based course that focuses on introducing students to the basic lab techniques, equipment, critical thinking, work ethics, and communication skills currently used in the medical, agricultural, marine and industrial bioscience fields. Students will gain an understanding of basic DNA and molecular biology, epigenetics, genetically modified foods, bacterial plasmids, and forensics. Students will learn the principles, methodologies, and applications of equipment such as thermocyclers, horizontal gel electrophoresis apparatus, micropipettes, spectrophotometers, centrifuges, etc. Students will gain proficiency in calculating, preparing, and pH control of common lab reagents, solutions, buffers, and agarose gels. Students will learn the principles of qualitative and quantitative analysis using biomolecular indicators, spectrophotometry, and standard curves. Topics covered will include the genetics of cancer, epigenetics, emerging and re-emerging infectious diseases that affect plants and animals, ethics of bioscience, and careers in bioscience.

Laboratory activities should include but not be limited to:

- Sterilization, handling and safety requirements according to standard operating procedures;
- The preparation of buffer solutions and agarose gels for horizontal electrophoresis;
- The preparation of solutions for spectroscopy;
- Use a spectrophotometer to measure solution concentrations and graph standard curves;
- Bacterial transformation and ligation using the Green fluorescent protein gene;
- Extraction of DNA;
- Quantitative analysis of DNA molecular weights;
- Polymerase chain reactions using given primers;
- Simulate DNA fingerprinting techniques used in crime scene analysis using given gene sequences.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text
5. Providing extensive research and writing opportunities (claims and evidence).

Prerequisite: Honors Biology
Corequisite: Honors Chemistry

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** BIOSCIENCE 1 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Biology (Grades 6-12)
Chemistry (Grades 6-12)

Bioscience 2 Honors (#2000510) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.6:	Discuss the mechanisms for regulation of gene expression in prokaryotes and eukaryotes at transcription and translation level.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.18.4:	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.

SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.

LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.A-SSE.1.1:	Interpret expressions that represent a quantity in terms of its context. ★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.F-LE.1.1:	Distinguish between situations that can be modeled with linear functions and with exponential functions. ★ a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.2:	Define appropriate quantities for the purpose of descriptive modeling. ★ **Clarifications:** **Algebra 1 Content Notes:** Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
	Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and

MAFS.K12.MP.2.1:	manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:**

	Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.8:	Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. **Clarifications:** Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.
SS.912.C.2.4:	Evaluate, take, and defend positions on issues that cause the government to balance the interests of individuals with the public good.
SS.912.C.2.8:	Analyze the impact of citizen participation as a means of achieving political and social change. **Clarifications:** Examples are e-mail campaigns, boycotts, blogs, podcasts, protests, demonstrations, letters to editors.
SS.912.C.2.13:	Analyze various forms of political communication and evaluate for bias, factual accuracy, omission, and emotional appeal. **Clarifications:** Examples are political cartoons, propaganda, campaign advertisements, political speeches, electronic bumper stickers, blogs, media.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007). Bioscience II is a rigorous laboratory based course that provides an advanced foundation in the concepts, theories, and pioneering methods involved in micro and molecular based research including medical research, functional genomics, gene discovery, agriculture and forensics. Students will learn how to design plasmids and primers for polymerase chain reactions (PCR). Course focus will be on proteomics (the study of protein expression), protein separation and analysis, protein chromatography purification, protein quantification through spectroscopy, cladistical analysis, immunology, stem cell research, gene sequencing, and bioinformatics using BLAST (Basic Local Alignment Search Tool.) Emphasis will be placed on training students in the means by which to design experiments in preparation for independent research. Students will learn the principles, methodologies, and applications of equipment such as thermocyclers, horizontal and vertical gel electrophoresis, micropipettes, spectrophotometers, centrifuges, and other advanced laboratory apparatus used in the bioscience industry.

Laboratory activities may include but not be limited to:

- The preparation of buffer solutions and polyacrylamide gels for vertical electrophoresis;
- Quantitative analysis of protein molecular weights by developing a standard curve;
- Western blotting and ELISA testing;
- The preparation of serial dilutions for spectroscopy to determine unknown concentrations;
- Bacterial transformation and ligation using bacterial blue/white screening;
- Extraction of DNA for chromatography purification to be used for electrophoresis;
- Polymerase chain reactions using self designed primers;
- Gene Sequencing and Bioinformatics.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes

Instructional Practices: Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Prerequisite: Honors Chemistry and Bioscience I/or AP Biology
Corequisite: Honors Physics

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).

- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000510

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** BIOSCIENCE 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Biology (Grades 6-12)
Chemistry (Grades 6-12)

Bioscience 3 Honors (#2000520) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.A-SSE.1.1:	Interpret expressions that represent a quantity in terms of its context. ★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1+r)^n$ *as the product of P and a factor not depending on P.*
	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

MAFS.912.F-IF.3.7:	★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.2:	Define appropriate quantities for the purpose of descriptive modeling. ★ **Clarifications:** **Algebra 1 Content Notes:** Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions.
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.1.1:	Understand statistics as a process for making inferences about population parameters based on a random sample from that population. ★
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.912.S-ID.3.8:	Compute (using technology) and interpret the correlation coefficient of a linear fit. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

	Standard Relation to Course: Supporting
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
SS.912.C.2.4:	Evaluate, take, and defend positions on issues that cause the government to balance the interests of individuals with the public good.
SS.912.C.2.5:	Conduct a service project to further the public good. **Clarifications:** Examples are school, community, state, national, international.
SS.912.C.2.8:	Analyze the impact of citizen participation as a means of achieving political and social change. **Clarifications:** Examples are e-mail campaigns, boycotts, blogs, podcasts, protests, demonstrations, letters to editors.
SS.912.C.2.10:	Monitor current public issues in Florida. **Clarifications:** Examples are On-line Sunshine, media, e-mails to government officials, political text messaging.
SS.912.C.2.13:	Analyze various forms of political communication and evaluate for bias, factual accuracy, omission, and emotional appeal. **Clarifications:** Examples are political cartoons, propaganda, campaign advertisements, political speeches, electronic bumper stickers, blogs, media.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.
HE.912.C.1.8:	Assess the degree of susceptibility to injury, illness, or death if engaging in unhealthy/risky behaviors. **Clarifications:** Risks associated with alcohol abuse, including poison, date rape, and death; cancer and chronic lung disease related to tobacco use; overdose from drug use; child abuse or neglect; and dating violence.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007). Bioscience III is an advanced laboratory based research course that will apply the conceptual knowledge and practical skills learned in Bioscience I and II. The goal of this course is to develop skills in the evaluation of research, to provide practice in scientific writing, to develop oral communication skills, and to expose students to current literature and research in the field of Bioscience. The first part of the course will focus on the analysis, evaluation, and discussion of recent Bioscience-related research publications. Students will be required to provide both oral and written evaluations of the publications that are discussed. Students will form teams and work with faculty to design and implement an independent research project, prepare a technical paper, and present their results. Students will be given the option to participate in local and/or national science competitions. Students will have opportunities to contact mentors from surrounding Bioscience educational and research facilities for advice during the development and implementation of their research projects.

Independent laboratory activities should emphasize experimental design of an original research project and may include but should not be limited to:

- Determine and implement specific electrophoresis techniques;
- Primer Design specified by the parameters of the research project;
- Plasmid Design;
- Extraction and purification of DNA and/or protein.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:
Ensuring wide reading from complex text that varies in length.

1. Making close reading and rereading of texts central to lessons.
2. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
3. Emphasizing students supporting answers based upon evidence from the text.
4. Providing extensive research and writing opportunities (claims and evidence).
5. Integration of Florida Standards for Mathematical Practice.

Pre-requisites: Bioscience II
Corequisite: Equally rigorous science course

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2000520

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science >

SubSubject: Biological Sciences >
Abbreviated Title: BIOSCIENCE 3 HON
Number of Credits: One (1) credit
Course Length: Year (Y)
Course Attributes:
- Honors

Course Type: Core Academic Course
Course Level: 3
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12
Graduation Requirement: Equally Rigorous Science

Educator Certifications

Biology (Grades 6-12)
Chemistry (Grades 6-12)

Florida's Preinternational Baccalaureate Biology 1 (#2000800) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.

SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
	Write arguments focused on *discipline-specific content.*

LAFS.910.WHST.1.1:	a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
	Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In

MAFS.K12.MP.4.1:	early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Special Note. *Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course".*

The IB does not recognize pre-IB courses or courses labeled IB by different school districts which are not an official part of the IBDP or IBCC curriculum. Typically, students enrolled in grade 9 or 10 are not in the IBDP or IBCC programmes.
ibanswers.ibo.org/app/answers/detail/a_id/5414/kw/pre-ib. **Florida's Pre-IB courses should only be used in schools where MYP is not offered in order to prepare students to enter the IBDP. Teachers of Florida's Pre-IB courses should have undergone IB training in order to ensure seamless articulation for students within the subject area.**
Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf

GENERAL INFORMATION

Course Number: 2000800

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10

Graduation Requirement: Biology

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences > **Abbreviated Title:** FL PRE-IB BIO 1

Course Length: Year (Y)

Course Attributes:

- Honors

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000310-Biology 1

International Baccalaureate Biology 1 (#2000805) 2018 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2000805

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: IB BIOLOGY 1

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000805-International Baccalaureate Biology 1
Equivalency end year: 2018

International Baccalaureate Biology 2 (#2000810) 2018 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2000810

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: IB BIO 2

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000810-International Baccalaureate Biology 2
Equivalency end year: 2018

International Baccalaureate Biology 3 (#2000820) 2018 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2000820

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: IB BIO 3

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)

Equivalent Courses

2000820-International Baccalaureate Biology 3
Equivalency end year: 2018

International Baccalaureate Mid Years Prog Biology (#2000850) 2018 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2000850

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Biological Sciences >

Abbreviated Title: IB MYP BIOLOGY

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: District-Determined

Educator Certifications

Middle Grades General Science (Middle Grades 5-9)
Biology (Grades 6-12)
Science (Secondary Grades 7-12)

Equivalent Courses

2000850-International Baccalaureate Mid Years Prog Biology Equivalency end year: 2018

Science Transfer (#2000990) 2015 - 2022 (current)

General Course Information and Notes

GENERAL NOTES

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 2000990

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >
Abbreviated Title: SCI TRAN
Course Length: Not Applicable

Course Type: Transfer Course
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

Computer Science Substitution for Equally Rigorous Science (#2000998) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

Section 1007.2616(6)(a), F.S., authorizes the substitution of up to one (1) mathematics credit (MA) and one (1) equally rigorous science (EQ) credit toward high school graduation for a student receiving a passing score on an industry certification examination and using an eligible computer science course containing content related to the course for which it is substituting. A listing of eligible computer science courses for the current school year is posted at fldoe.org/core/fileparse.php/7746/urlt/1819CompSci.pdf.

The school district would determine which industry certification exams (passing scores) can yield course substitutions for mathematics and science. It is important to note that one qualifying industry certification attainment equates to one substitution credit. A student would need to earn two distinct industry certifications tied to college credit in order to earn the maximum two substitution credits (one for math, one for science). The eligible industry certifications that are tied to statewide college credit may be found at fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml.

Per statute, the substitution does not apply to Biology1 or other higher-level equally-rigorous science courses; higher-level courses are Level 3 courses in the Florida Course Code Directory.

Students who receive a course substitution earn course credit counted toward high school graduation. A course substitution does not factor into a student's grade point average (GPA).

Please note that course substitutions may not meet State University System (SUS) admission requirements or state scholarship program requirements.

QUALIFICATIONS

Not applicable

GENERAL INFORMATION

Course Number: 2000998

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >
Abbreviated Title: COMP SCI SUB EQ SCI
Course Length: Not Applicable

Course Type: Course Substitution
Course Status: Course Approved
Grade Level(s): 9,10,11,12
Graduation Requirement: Equally Rigorous Science

CTE Industry Certification Science Substitution (#2000999) 2014 - 2022 (current)

General Course Information and Notes

VERSION DESCRIPTION

Section 1003.4282, F.S., authorizes the substitution of up to one (1) equally rigorous science credit (EQ) toward high school graduation for a student receiving a passing score on an industry certification examination. Only one substitution per industry certification attained is allowed.

The school district would determine which industry certification exams (passing scores) can yield course substitutions for science. It is important to note that one qualifying industry certification attainment equates to one substitution credit. The eligible industry certifications that are tied to statewide college credit may be found at fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml.

Students who receive a course substitution earn course credit counted toward high school graduation. A course substitution does not factor into a student's grade point average (GPA).

GENERAL INFORMATION

Course Number: 2000999

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >
Abbreviated Title: CTE/IC SCI SUB
Course Length: Not Applicable

Course Type: Course Substitution
Course Status: Draft - Course Pending Approval
Graduation Requirement: Equally Rigorous Science

M/J Earth/Space Science (#2001010) 2015 - 2022 (current)

Course Standards

Use grade appropriate Nature of Science benchmarks (i.e. if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Name	Description
SC.6.E.6.1:	Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.
SC.6.E.6.2:	Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
SC.6.E.7.1:	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
SC.6.E.7.2:	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
SC.6.E.7.3:	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
SC.6.E.7.4:	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.
SC.6.E.7.5:	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
SC.6.E.7.6:	Differentiate between weather and climate.
SC.6.E.7.7:	Investigate how natural disasters have affected human life in Florida.
SC.6.E.7.8:	Describe ways human beings protect themselves from hazardous weather and sun exposure.
SC.6.E.7.9:	Describe how the composition and structure of the atmosphere protects life and insulates the planet.
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.7.E.6.1:	Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.
SC.7.E.6.2:	Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and sub-surface events (plate tectonics and mountain building).
SC.7.E.6.3:	Identify current methods for measuring the age of Earth and its parts, including the law of superposition and radioactive dating.
SC.7.E.6.4:	Explain and give examples of how physical evidence supports scientific theories that Earth has evolved over geologic time due to natural processes.
SC.7.E.6.5:	Explore the scientific theory of plate tectonics by describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.
SC.7.E.6.6:	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
SC.7.E.6.7:	Recognize that heat flow and movement of material within Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.8.E.5.1:	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.
SC.8.E.5.2:	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.

SC.8.E.5.3:	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.
SC.8.E.5.4:	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.
SC.8.E.5.5:	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).
SC.8.E.5.6:	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.
SC.8.E.5.7:	Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.
SC.8.E.5.8:	Compare various historical models of the Solar System, including geocentric and heliocentric.
SC.8.E.5.9:	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.
SC.8.E.5.10:	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.
SC.8.E.5.11:	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.
SC.8.E.5.12:	Summarize the effects of space exploration on the economy and culture of Florida.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.6.SL.2.5:	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to

LAFS.68.WHST.1.2:	achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context

	of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.6.C.1.3:	Identify environmental factors that affect personal health. **Clarifications:** Air and water quality, availability of sidewalks, contaminated food, and road hazards.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2001010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences >

Abbreviated Title: M/J EARTH/SPA SCI

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)

M/J Earth/Space Science, Advanced (#2001020) 2015 - 2022

(current)

Course Standards

Use grade appropriate Nature of Science benchmarks (i.e. if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Name	Description
SC.6.E.6.1:	Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.
SC.6.E.6.2:	Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
SC.6.E.7.1:	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
SC.6.E.7.2:	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
SC.6.E.7.3:	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
SC.6.E.7.4:	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.
SC.6.E.7.5:	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
SC.6.E.7.6:	Differentiate between weather and climate.
SC.6.E.7.7:	Investigate how natural disasters have affected human life in Florida.
SC.6.E.7.8:	Describe ways human beings protect themselves from hazardous weather and sun exposure.
SC.6.E.7.9:	Describe how the composition and structure of the atmosphere protects life and insulates the planet.
SC.7.E.6.1:	Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.
SC.7.E.6.2:	Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and sub-surface events (plate tectonics and mountain building).
SC.7.E.6.3:	Identify current methods for measuring the age of Earth and its parts, including the law of superposition and radioactive dating.
SC.7.E.6.4:	Explain and give examples of how physical evidence supports scientific theories that Earth has evolved over geologic time due to natural processes.
SC.7.E.6.5:	Explore the scientific theory of plate tectonics by describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.
SC.7.E.6.6:	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
SC.7.E.6.7:	Recognize that heat flow and movement of material within Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.8.E.5.1:	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.
SC.8.E.5.2:	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.
SC.8.E.5.3:	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.
SC.8.E.5.4:	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.
SC.8.E.5.5:	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).
SC.8.E.5.6:	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.
SC.8.E.5.7:	Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.
SC.8.E.5.8:	Compare various historical models of the Solar System, including geocentric and heliocentric.
SC.8.E.5.9:	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.

SC.8.E.5.10:	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.
SC.8.E.5.11:	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.
SC.8.E.5.12:	Summarize the effects of space exploration on the economy and culture of Florida.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.6.1:	Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.6.3:	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and

LAFS.7.SL.1.1:	issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and

	formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.6.C.1.3:	Identify environmental factors that affect personal health. **Clarifications:** Air and water quality, availability of sidewalks, contaminated food, and road hazards.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.

2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2001020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences >

Abbreviated Title: M/J EARTH/SPA SCI ADV

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)

M/J STEM Astronomy and Space Science (#2001025) 2015 - 2022 (current)

Course Standards

Name	Description
SC.6.E.7.9:	Describe how the composition and structure of the atmosphere protects life and insulates the planet.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.8.E.5.1:	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.
SC.8.E.5.2:	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.
SC.8.E.5.3:	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.
SC.8.E.5.4:	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.
SC.8.E.5.5:	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).
SC.8.E.5.6:	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.
SC.8.E.5.7:	Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.
SC.8.E.5.8:	Compare various historical models of the Solar System, including geocentric and heliocentric.
SC.8.E.5.9:	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.
SC.8.E.5.10:	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.
SC.8.E.5.11:	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.
SC.8.E.5.12:	Summarize the effects of space exploration on the economy and culture of Florida.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.

SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.SP.1.1:	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
MAFS.6.SP.1.2:	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.SP.1.1:	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.SP.1.2:	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
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	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
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LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

GENERAL NOTES

If this course is to be used in a STEM sequence in place of either the comprehensive or subject specific course sequences, teachers should refer to the test item specifications for the 8th grade SSA for information on tested standards which can be found at: fldoe.org/core/fileparse.php/5663/urlt/swsatisG8.pdf.

This course is an integrated Science, Technology, Engineering and Mathematics (STEM) course for middle school students. M/J STEM Physical Science includes an integration of standards from science, mathematics, and english/language arts (ELA) through the application to STEM problem solving using physical science knowledge and science and engineering practices. Physical sciences through applications such as aeronautics, robotics, rocketry, mechanical, electrical, and civil engineering, are emphasized in this course. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by other using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC, 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

ISTE Standards (iste.org/docs/pdfs20-14_ISTE_Standards-S_PDF.pdf) should be incorporated in many contexts throughout the course.

Course Standards

Use grade appropriate Nature of Science and Mathematics Content (MAFS) benchmarks (i.e., if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

Additional Instructional Resources:
A.V.E. for Success Collection: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139

GENERAL INFORMATION

Course Number: 2001025

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences >
Abbreviated Title: M/J STEM ASTRO/SPACE
Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Chemistry (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Middle Grades General Science (Middle Grades 5-9)

M/J International Baccalaureate MYP Earth/Space Science (#2001030) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 2001030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences >
Abbreviated Title: M/J IB MYP ERT/SP SC
Course Length: Year (Y)
Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Physics (Grades 6-12)
Chemistry (Grades 6-12)

Earth/Space Science (#2001310) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.1:	Cite evidence used to develop and verify the scientific theory of the Big Bang (also known as the Big Bang Theory) of the origin of the universe.
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.3:	Describe and predict how the initial mass of a star determines its evolution.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.5.5:	Explain the formation of planetary systems based on our knowledge of our Solar System and apply this knowledge to newly discovered planetary systems.
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.5.11:	Distinguish the various methods of measuring astronomical distances and apply each in appropriate situations.
SC.912.E.6.1:	Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.6.3:	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.
SC.912.E.6.4:	Analyze how specific geologic processes and features are expressed in Florida and elsewhere.
SC.912.E.6.5:	Describe the geologic development of the present day oceans and identify commonly found features.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.2:	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.

SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.19:	Explain that all objects emit and absorb electromagnetic radiation and distinguish between objects that are blackbody radiators and those that are not.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications

	or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**

	Attend to precision.
MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Standard Relation to Course: Supporting
	Look for and make use of structure.
MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
	Look for and express regularity in repeated reasoning.
MAFS.K12.MP.8.1:	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
	Standard Relation to Course: Supporting
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

VERSION DESCRIPTION

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access

an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2001310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences > **Abbreviated Title:** EARTH/SPA SCI

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Earth/Space Science Honors (#2001320) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.1:	Cite evidence used to develop and verify the scientific theory of the Big Bang (also known as the Big Bang Theory) of the origin of the universe.
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.3:	Describe and predict how the initial mass of a star determines its evolution.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.5.5:	Explain the formation of planetary systems based on our knowledge of our Solar System and apply this knowledge to newly discovered planetary systems.
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.5.10:	Describe and apply the coordinate system used to locate objects in the sky.
SC.912.E.5.11:	Distinguish the various methods of measuring astronomical distances and apply each in appropriate situations.
SC.912.E.6.1:	Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.6.3:	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.
SC.912.E.6.4:	Analyze how specific geologic processes and features are expressed in Florida and elsewhere.
SC.912.E.6.5:	Describe the geologic development of the present day oceans and identify commonly found features.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.2:	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.

SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.19:	Explain that all objects emit and absorb electromagnetic radiation and distinguish between objects that are blackbody radiators and those that are not.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

	e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting

	a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

	Standard Relation to Course: Supporting
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
	Standard Relation to Course: Supporting
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Earth/Space Science course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2001320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science >

SubSubject: Earth/Space Sciences >
Abbreviated Title: EARTH/SPA SCI HON
Number of Credits: One (1) credit
Course Length: Year (Y)
Course Attributes:
- Honors

Course Type: Core Academic Course
Course Level: 3
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12
Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Meteorology Honors (#2001330) 2019 - 2022 (current)

Course Standards

Name	Description
SC.912.CS-CP.1.3:	Analyze and manipulate data collected by a variety of data collection techniques to support a hypothesis.
SC.912.CS-CP.1.4:	Collect real-time data from sources such as simulations, scientific and robotic sensors, and device emulators, using this data to formulate strategies or algorithms to solve advanced problems.
SC.912.CS-CS.1.1:	Analyze data and identify real-world patterns through modeling and simulation.
SC.912.CS-CS.1.3:	Explain how data analysis is used to enhance the understanding of complex natural and human systems.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.2:	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.12:	Discuss the political, social, and environmental consequences of sustainable use of land.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and

SC.912.N.2.4:	re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.19:	Explain that all objects emit and absorb electromagnetic radiation and distinguish between objects that are blackbody radiators and those that are not.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

LAFS.910.WHST.1.2:	c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see

	complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.4:	Propose strategies to reduce or prevent injuries and health problems. **Clarifications:** Mandatory passenger-restraint/helmet laws, refusal skills, mandatory immunizations, healthy relationship skills, and improved inspection of food sources.

General Course Information and Notes

VERSION DESCRIPTION

This interdisciplinary science course covers the fundamentals of meteorology, emphasizing the physical and chemical processes that control Earth's weather and climate. Course topics include solar energy, atmospheric and oceanic movement, and energy transfer. Students will study and practice weather prediction using technology, data and models. In addition, students will learn the forces behind the formation of severe weather events. The course will cover the history of Earth's climate and the practices and tools used to study meteorology as well as the forces behind fluctuations in the Earth's weather and climate over time such as Milankovich Cycles, and ice ages. Students have the opportunity to access real-world empirical data to study weather patterns both globally and locally, model the processes that impact changes using basic mathematical expressions, graphing and statistics, and test the relationship between predictions and observations. The course also includes opportunities to practice science literacy by teaching from a range of complex texts that vary in length, and feature empirical evidence. Students will also be provided extensive research and writing opportunities (claims and evidence).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

This course has been designed for the teacher to select and teach only the appropriate standards corresponding to a student's grade level and/or instructional needs.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 2001330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences > **Abbreviated Title:** Meteorology Honors

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Educator Certifications

Chemistry (Grades 6-12)
Physics (Grades 6-12)
Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)

Environmental Science (#2001340) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.15.3:	Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.12:	Discuss the political, social, and environmental consequences of sustainable use of land.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.14:	Assess the need for adequate waste management strategies.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.18:	Describe how human population size and resource use relate to environmental quality.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and

SC.912.N.2.4:	re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**

MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2001340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Environmental Science > **Abbreviated Title:** ENV SCI

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Environmental Science Honors (#2001341) 2016 - 2022 (current)

Course Standards

Name	Description
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.15.3:	Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.12:	Discuss the political, social, and environmental consequences of sustainable use of land.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.14:	Assess the need for adequate waste management strategies.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.17.18:	Describe how human population size and resource use relate to environmental quality.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.3.1:	Use geographic terms to locate and describe major ecosystems of Earth.
SS.912.G.3.2:	Use geographic terms and tools to explain how weather and climate influence the natural character of a place.
SS.912.G.3.3:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in Florida, the United States, and the world.
SS.912.G.3.5:	Use geographic terms and tools to explain how hydrology influences the physical character of a place.
SS.912.G.5.1:	Analyze case studies of how the Earth's physical systems affect humans.
SS.912.G.5.2:	Analyze case studies of how changes in the physical environment of a place can increase or diminish its capacity to support human activity.
SS.912.G.5.3:	Analyze case studies of the effects of human use of technology on the environment of places.
SS.912.G.5.4:	Analyze case studies of how humans impact the diversity and productivity of ecosystems.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★

MAFS.912.S-ID.1.1:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.

General Course Information and Notes

GENERAL NOTES

This course is designed as an interdisciplinary course to provide students with scientific principles, concepts, and methodologies required to identify and analyze environmental problems and to evaluate risks and alternative solutions for resolving and/or preventing them. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p.3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have skills to aggregate, interpret, and present the resulting data (NRC, 2006, p.77; NSTA, 2007).

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access

an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 2001341

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Environmental Science >

Abbreviated Title: ENV SCI HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)

Cambridge Pre-AICE Environmental Management IGCSE Level (#2001342) 2019 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 2001342

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Environmental Science >

Abbreviated Title: PRE-AICE ENV MGMT IG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)
Biology (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Secondary Grades 7-12)

Astronomy Solar/Galactic (#2001350) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.5.11:	Distinguish the various methods of measuring astronomical distances and apply each in appropriate situations.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.

SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.19:	Explain that all objects emit and absorb electromagnetic radiation and distinguish between objects that are blackbody radiators and those that are not.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
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LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
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LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course

standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2001350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences > **Abbreviated Title:** ASTRONOMY S/G

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

International Baccalaureate Environmental Systems and Societies 1 (#2001370) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2001370

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Environmental Science >

Abbreviated Title: IB ENV SYS & SOC 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)

International Baccalaureate Environmental Systems & Societies 2 (#2001375) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2001375

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Environmental Science >

Abbreviated Title: IB ENV SYS & SOC 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)

Advanced Placement Environmental Science (#2001380) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2001380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Environmental Science >

Abbreviated Title: AP ENV SCI

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)

Cambridge AICE Environmental Management AS Level (#2001381) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2001381

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Environmental Science >

Abbreviated Title: AICE ENV MGMNT AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Chemistry (Grades 6-12)

Cambridge Pre-AICE Coordinated Science 1 IGCSE Level (#2001390) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 2001390

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: PRE-AICE COORSCI 1IG

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Physics (Grades 6-12)
Chemistry (Grades 6-12)

Cambridge Pre-AICE Coordinated Science 2 IGCSE Level (#2001400) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 2001400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: PRE-AICE COORSCI 2IG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Physics (Grades 6-12)
Chemistry (Grades 6-12)

Cambridge Pre-AICE Combined Science IGCSE Level (#2001405) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 2001405

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: PRE-AICE COMB SCI IG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Physics (Grades 6-12)
Chemistry (Grades 6-12)

International Baccalaureate Astronomy 2 (#2001810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2001810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences >

Abbreviated Title: IB ASTRONOMY 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

International Baccalaureate Sports Exercise Science 1 (#2001820) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2001820

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: IB SPORTS EXER SCI 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

International Baccalaureate Sports Exercise Science 2 (#2001830) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2001830

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: IB SPORTS EXER SCI 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)

International Baccalaureate Sports Exercise Science 3 (#2001835) 2018 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2001835

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: IB SPORTS EXER SCI 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Physical Education (Grades 6-12)
Physical Education (Elementary and Secondary Grades K-12)
Biology (Grades 6-12)

M/J Comprehensive Science 1 (#2002040) 2015 - 2022 (current)

Course Standards

Name	Description
SC.6.E.6.1:	Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.
SC.6.E.6.2:	Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
SC.6.E.7.1:	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
SC.6.E.7.2:	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
SC.6.E.7.3:	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
SC.6.E.7.4:	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.
SC.6.E.7.5:	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
SC.6.E.7.6:	Differentiate between weather and climate.
SC.6.E.7.7:	Investigate how natural disasters have affected human life in Florida.
SC.6.E.7.8:	Describe ways human beings protect themselves from hazardous weather and sun exposure.
SC.6.E.7.9:	Describe how the composition and structure of the atmosphere protects life and insulates the planet.
SC.6.L.14.1:	Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
SC.6.L.14.2:	Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
SC.6.L.14.3:	Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
SC.6.L.14.4:	Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.
SC.6.L.14.5:	Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.
SC.6.L.14.6:	Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.
SC.6.L.15.1:	Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.6.P.11.1:	Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.
SC.6.P.12.1:	Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.
SC.6.P.13.1:	Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
SC.6.P.13.2:	Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.
SC.6.P.13.3:	Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.6.SL.2.5:	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**

	Reason abstractly and quantitatively.
MAFS.K12.MP.2.1:	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others.
MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
	Model with mathematics.
MAFS.K12.MP.4.1:	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically.
MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision.
MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure.
MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
	Look for and express regularity in repeated reasoning.
MAFS.K12.MP.8.1:	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
	Identify environmental factors that affect personal health.

HE.6.C.1.3:	**Clarifications:** Air and water quality, availability of sidewalks, contaminated food, and road hazards.
HE.6.C.1.5:	Explain how body systems are impacted by hereditary factors and infectious agents. **Clarifications:** Cystic fibrosis affects respiratory and a digestive system, sickle-cell anemia affects the circulatory system, and influenza affects the respiratory system.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139

GENERAL INFORMATION

Course Number: 2002040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J COMP SCI 1

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Elementary Grades 1-6)
Science (Secondary Grades 7-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J Comprehensive Science 1, Advanced (#2002050) 2015 - 2022 (current)

Course Standards

Name	Description
SC.6.E.6.1:	Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.
SC.6.E.6.2:	Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
SC.6.E.7.1:	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
SC.6.E.7.2:	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
SC.6.E.7.3:	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
SC.6.E.7.4:	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.
SC.6.E.7.5:	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
SC.6.E.7.6:	Differentiate between weather and climate.
SC.6.E.7.7:	Investigate how natural disasters have affected human life in Florida.
SC.6.E.7.8:	Describe ways human beings protect themselves from hazardous weather and sun exposure.
SC.6.E.7.9:	Describe how the composition and structure of the atmosphere protects life and insulates the planet.
SC.6.L.14.1:	Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
SC.6.L.14.2:	Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
SC.6.L.14.3:	Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
SC.6.L.14.4:	Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.
SC.6.L.14.5:	Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.
SC.6.L.14.6:	Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.
SC.6.L.15.1:	Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.6.P.11.1:	Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.
SC.6.P.12.1:	Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.
SC.6.P.13.1:	Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
SC.6.P.13.2:	Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.
SC.6.P.13.3:	Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.

SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
LAFS.6.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
LAFS.6.SL.1.2:	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LAFS.6.SL.1.3:	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.
LAFS.6.SL.2.4:	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.6.SL.2.5:	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.6.EE.3.9:	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*
MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

MAFS.6.SP.2.5:	c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure.

MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.6.C.1.3:	Identify environmental factors that affect personal health. **Clarifications:** Air and water quality, availability of sidewalks, contaminated food, and road hazards.
HE.6.C.1.5:	Explain how body systems are impacted by hereditary factors and infectious agents. **Clarifications:** Cystic fibrosis affects respiratory and a digestive system, sickle-cell anemia affects the circulatory system, and influenza affects the respiratory system.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J COMP SCI 1 ADV

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Elementary Grades 1-6)
Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J Comprehensive Science 1 Accelerated Honors (#2002055) 2015 - 2022 (current)

Course Standards

Name	Description
SC.6.E.6.1:	Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.
SC.6.E.6.2:	Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
SC.6.E.7.1:	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
SC.6.E.7.2:	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
SC.6.E.7.3:	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
SC.6.E.7.4:	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.
SC.6.E.7.5:	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
SC.6.E.7.6:	Differentiate between weather and climate.
SC.6.E.7.7:	Investigate how natural disasters have affected human life in Florida.
SC.6.E.7.8:	Describe ways human beings protect themselves from hazardous weather and sun exposure.
SC.6.E.7.9:	Describe how the composition and structure of the atmosphere protects life and insulates the planet.
SC.6.L.14.1:	Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
SC.6.L.14.2:	Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
SC.6.L.14.3:	Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
SC.6.L.14.4:	Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.
SC.6.L.14.5:	Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.
SC.6.L.14.6:	Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.
SC.6.L.15.1:	Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.6.P.11.1:	Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.
SC.6.P.12.1:	Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.
SC.6.P.13.1:	Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
SC.6.P.13.2:	Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.
SC.6.P.13.3:	Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.P.8.1:	Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.

SC.8.P.8.2:	Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.
SC.8.P.8.3:	Explore and describe the densities of various materials through measurement of their masses and volumes.
SC.8.P.8.4:	Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.
SC.8.P.8.5:	Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.
SC.8.P.8.6:	Recognize that elements are grouped in the periodic table according to similarities of their properties.
SC.8.P.8.7:	Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).
SC.8.P.8.8:	Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.
SC.8.P.8.9:	Distinguish among mixtures (including solutions) and pure substances.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and

LAFS.7.SL.1.1:	issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.7.C.1.3:	Analyze how environmental factors affect personal health. **Clarifications:** Food refrigeration, appropriate home heating and cooling, air/water quality, and garbage/trash collection.
HE.7.C.1.7:	Describe how heredity can affect personal health. **Clarifications:** Sickle-cell anemia, diabetes, and acne.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002055

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J COMPSCI1 ACC HON

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)

M/J Science 1 Cambridge Lower Secondary (#2002056) 2014 - 2022 (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

GENERAL INFORMATION

Course Number: 2002056

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J SCI 1 CLS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)

M/J International Baccalaureate MYP Comprehensive Science 1 (#2002060) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 2002060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J IB MYP COMP SCI1

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Science (Elementary Grades 1-6)
Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Chemistry (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Biology (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J Comprehensive Science 2 (#2002070) 2015 - 2022 (current)

Course Standards

Name	Description
SC.7.E.6.1:	Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.
SC.7.E.6.2:	Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and sub-surface events (plate tectonics and mountain building).
SC.7.E.6.3:	Identify current methods for measuring the age of Earth and its parts, including the law of superposition and radioactive dating.
SC.7.E.6.4:	Explain and give examples of how physical evidence supports scientific theories that Earth has evolved over geologic time due to natural processes.
SC.7.E.6.5:	Explore the scientific theory of plate tectonics by describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.
SC.7.E.6.6:	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
SC.7.E.6.7:	Recognize that heat flow and movement of material within Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.
SC.7.L.15.1:	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.
SC.7.L.15.2:	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.
SC.7.L.15.3:	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.
SC.7.L.16.1:	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.
SC.7.L.16.2:	Determine the probabilities for genotype and phenotype combinations using Punnett Squares and pedigrees.
SC.7.L.16.3:	Compare and contrast the general processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis.
SC.7.L.16.4:	Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.
SC.7.L.17.1:	Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
SC.7.L.17.2:	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.
SC.7.L.17.3:	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.7.P.10.1:	Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.
SC.7.P.10.2:	Observe and explain that light can be reflected, refracted, and/or absorbed.
SC.7.P.10.3:	Recognize that light waves, sound waves, and other waves move at different speeds in different materials.
SC.7.P.11.1:	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.
SC.7.P.11.2:	Investigate and describe the transformation of energy from one form to another.
SC.7.P.11.3:	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.
SC.7.P.11.4:	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons

LAFS.68.WHST.1.1:	and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.7.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by

MAFS.K12.MP.3.1:	breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
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ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.7.C.1.3:	Analyze how environmental factors affect personal health. **Clarifications:** Food refrigeration, appropriate home heating and cooling, air/water quality, and garbage/trash collection.
HE.7.C.1.8:	Explain the likelihood of injury or illness if engaging in unhealthy/risky behaviors. **Clarifications:** Abuse of over-the-counter medications, sexually transmitted diseases and sexually transmitted infections from sexual relationships, injury, or death from unsupervised handling of firearms, and physical/emotional injury, or impact from abusive dating partner.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139

GENERAL INFORMATION

Course Number: 2002070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J COMPRE SCI 2

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Biology (Grades 6-12)
Chemistry (Grades 6-12)

M/J Comprehensive Science 2, Advanced (#2002080) 2015 - 2022 (current)

Course Standards

Name	Description
SC.7.E.6.1:	Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.
SC.7.E.6.2:	Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and sub-surface events (plate tectonics and mountain building).
SC.7.E.6.3:	Identify current methods for measuring the age of Earth and its parts, including the law of superposition and radioactive dating.
SC.7.E.6.4:	Explain and give examples of how physical evidence supports scientific theories that Earth has evolved over geologic time due to natural processes.
SC.7.E.6.5:	Explore the scientific theory of plate tectonics by describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.
SC.7.E.6.6:	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
SC.7.E.6.7:	Recognize that heat flow and movement of material within Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.
SC.7.L.15.1:	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.
SC.7.L.15.2:	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.
SC.7.L.15.3:	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.
SC.7.L.16.1:	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.
SC.7.L.16.2:	Determine the probabilities for genotype and phenotype combinations using Punnett Squares and pedigrees.
SC.7.L.16.3:	Compare and contrast the general processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis.
SC.7.L.16.4:	Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.
SC.7.L.17.1:	Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
SC.7.L.17.2:	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.
SC.7.L.17.3:	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.7.P.10.1:	Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.
SC.7.P.10.2:	Observe and explain that light can be reflected, refracted, and/or absorbed.
SC.7.P.10.3:	Recognize that light waves, sound waves, and other waves move at different speeds in different materials.
SC.7.P.11.1:	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.
SC.7.P.11.2:	Investigate and describe the transformation of energy from one form to another.
SC.7.P.11.3:	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.
SC.7.P.11.4:	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.
SC.912.E.6.1:	Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.6.3:	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.7.SL.1.2:	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.SL.2.5:	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different

	method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
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ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.7.C.1.3:	Analyze how environmental factors affect personal health. **Clarifications:** Food refrigeration, appropriate home heating and cooling, air/water quality, and garbage/trash collection.
HE.7.C.1.7:	Describe how heredity can affect personal health. **Clarifications:** Sickle-cell anemia, diabetes, and acne.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2002080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >
Abbreviated Title: M/J COMPRE SCI 2 ADV

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)

M/J Comprehensive Science 2 Accelerated Honors (#2002085) 2015 - 2022 (current)

Course Standards

Name	Description
SC.7.E.6.1:	Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.
SC.7.E.6.2:	Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and sub-surface events (plate tectonics and mountain building).
SC.7.E.6.3:	Identify current methods for measuring the age of Earth and its parts, including the law of superposition and radioactive dating.
SC.7.E.6.4:	Explain and give examples of how physical evidence supports scientific theories that Earth has evolved over geologic time due to natural processes.
SC.7.E.6.5:	Explore the scientific theory of plate tectonics by describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.
SC.7.E.6.6:	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
SC.7.E.6.7:	Recognize that heat flow and movement of material within Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.
SC.7.L.15.1:	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.
SC.7.L.15.2:	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.
SC.7.L.15.3:	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.
SC.7.L.16.1:	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.
SC.7.L.16.2:	Determine the probabilities for genotype and phenotype combinations using Punnett Squares and pedigrees.
SC.7.L.16.3:	Compare and contrast the general processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis.
SC.7.L.16.4:	Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.
SC.7.L.17.1:	Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
SC.7.L.17.2:	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.
SC.7.L.17.3:	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.7.P.10.1:	Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.
SC.7.P.10.2:	Observe and explain that light can be reflected, refracted, and/or absorbed.
SC.7.P.10.3:	Recognize that light waves, sound waves, and other waves move at different speeds in different materials.
SC.7.P.11.1:	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.
SC.7.P.11.2:	Investigate and describe the transformation of energy from one form to another.
SC.7.P.11.3:	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.
SC.7.P.11.4:	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.
SC.8.E.5.1:	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.
SC.8.E.5.2:	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.
SC.8.E.5.3:	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.
SC.8.E.5.4:	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.
SC.8.E.5.5:	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).
SC.8.E.5.6:	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.
SC.8.E.5.7:	Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.
SC.8.E.5.8:	Compare various historical models of the Solar System, including geocentric and heliocentric.

SC.8.E.5.9:	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.
SC.8.E.5.10:	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.
SC.8.E.5.11:	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.
SC.8.E.5.12:	Summarize the effects of space exploration on the economy and culture of Florida.
SC.8.L.18.1:	Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.
SC.8.L.18.2:	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.
SC.8.L.18.3:	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.
SC.8.L.18.4:	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
SC.8.P.9.1:	Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.
SC.8.P.9.2:	Differentiate between physical changes and chemical changes.
SC.8.P.9.3:	Investigate and describe how temperature influences chemical changes.
SC.912.E.6.1:	Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.6.3:	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.RST.4.10:	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style.

	e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

	Standard Relation to Course: Supporting
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.7.C.1.4:	Describe ways to reduce or prevent injuries and adolescent health problems. **Clarifications:** Helmet use, seat-belt use, pedestrian safety, unsupervised handling of firearms, and proper use of over-the-counter medications.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002085

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >
Abbreviated Title: M/J COMPSCI2 ACC HON
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)

M/J Science 2 Cambridge Lower Secondary (#2002086) 2014 - 2022 (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

GENERAL INFORMATION

Course Number: 2002086

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J SCI 2 CLS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)

M/J International Baccalaureate MYP Comprehensive Science 2 (#2002090) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 2002090

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J IB MYP COMP SCI2

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Science (Elementary Grades 1-6)
Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)

M/J Comprehensive Science 3 (#2002100) 2015 - 2022 (current)

Course Standards

Name	Description
SC.8.E.5.1:	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.
SC.8.E.5.2:	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.
SC.8.E.5.3:	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.
SC.8.E.5.4:	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.
SC.8.E.5.5:	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).
SC.8.E.5.6:	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.
SC.8.E.5.7:	Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.
SC.8.E.5.8:	Compare various historical models of the Solar System, including geocentric and heliocentric.
SC.8.E.5.9:	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.
SC.8.E.5.10:	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.
SC.8.E.5.11:	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.
SC.8.E.5.12:	Summarize the effects of space exploration on the economy and culture of Florida.
SC.8.L.18.1:	Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.
SC.8.L.18.2:	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.
SC.8.L.18.3:	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.
SC.8.L.18.4:	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
SC.8.P.8.1:	Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.
SC.8.P.8.2:	Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.
SC.8.P.8.3:	Explore and describe the densities of various materials through measurement of their masses and volumes.
SC.8.P.8.4:	Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.
SC.8.P.8.5:	Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.
SC.8.P.8.6:	Recognize that elements are grouped in the periodic table according to similarities of their properties.
SC.8.P.8.7:	Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).
SC.8.P.8.8:	Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.
SC.8.P.8.9:	Distinguish among mixtures (including solutions) and pure substances.
SC.8.P.9.1:	Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.
SC.8.P.9.2:	Differentiate between physical changes and chemical changes.
SC.8.P.9.3:	Investigate and describe how temperature influences chemical changes.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.

LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.RST.4.10:	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway

MAFS.K12.MP.1.1:	rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
	Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope

MAFS.K12.MP.8.1:	3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Additional content that may be included in the Grade 8 NAEP Science assessment includes:

- Rocks and rock formations bear evidence of the minerals, materials, temperature/pressure conditions, and forces that created them. (SC.4.E.6.1 and SC.4.E.6.2)
- Earth as a whole has a magnetic field that is detectable at the surface with a compass, with north and south poles and lines of force. (SC.912.P.10.16)
- The Sun is the major source of energy for phenomena on Earth's surface. (SC.3.L.17.2; SC.3.E.5.2; SC.3.E.6.1; SC.4.P.10.4; SC.4.L.17.2)
- Water, which covers the majority of Earth's surface, circulates through the crust, oceans, and atmosphere in what is known as the water cycle. (SC.5.E.7.1; SC.5.E.7.2; SC.5.E.7.6)
- A tiny fraction of the light energy from the Sun is Earth's primary source of energy, heating Earth surfaces and providing the energy that results in wind, ocean currents, and storms. (SC.2.E.7.2; SC.3.E.6.1)
- Following fertilization, cell division produces a small cluster of cells that then differentiate by appearance and function to form the basic tissues of an embryo. (SC.912.L.16.13)
- Characteristics of organisms are influenced by heredity and environment. (SC.4.L.16.2 and SC.4.L.16.3)
- Nuclear reactions take place in the Sun. (SC.912.P.10.10; SC.912.P.10.11)

The NAEP frameworks for Science may be accessed at nagb.org/publications/frameworks/science-09.pdf

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139

GENERAL INFORMATION

Course Number: 2002100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J COMP SCI 3

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)

M/J Comprehensive Science 3, Advanced (#2002110) 2015 - 2022 (current)

Course Standards

Name	Description
SC.8.E.5.1:	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.
SC.8.E.5.2:	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.
SC.8.E.5.3:	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.
SC.8.E.5.4:	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.
SC.8.E.5.5:	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).
SC.8.E.5.6:	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.
SC.8.E.5.7:	Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.
SC.8.E.5.8:	Compare various historical models of the Solar System, including geocentric and heliocentric.
SC.8.E.5.9:	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.
SC.8.E.5.10:	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.
SC.8.E.5.11:	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.
SC.8.E.5.12:	Summarize the effects of space exploration on the economy and culture of Florida.
SC.8.L.18.1:	Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.
SC.8.L.18.2:	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.
SC.8.L.18.3:	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.
SC.8.L.18.4:	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
SC.8.P.8.1:	Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.
SC.8.P.8.2:	Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.
SC.8.P.8.3:	Explore and describe the densities of various materials through measurement of their masses and volumes.
SC.8.P.8.4:	Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.
SC.8.P.8.5:	Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.
SC.8.P.8.6:	Recognize that elements are grouped in the periodic table according to similarities of their properties.
SC.8.P.8.7:	Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).
SC.8.P.8.8:	Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.
SC.8.P.8.9:	Distinguish among mixtures (including solutions) and pure substances.
SC.8.P.9.1:	Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.

SC.8.P.9.2:	Differentiate between physical changes and chemical changes.
SC.8.P.9.3:	Investigate and describe how temperature influences chemical changes.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.RST.4.10:	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
MAFS.8.SP.1.4:	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
	Attend to precision.

MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Additional content that may be included in the Grade 8 NAEP Science assessment includes:

- Rocks and rock formations bear evidence of the minerals, materials, temperature/pressure conditions, and forces that created them. (SC.4.E.6.1 and SC.4.E.6.2)
- Earth as a whole has a magnetic field that is detectable at the surface with a compass, with north and south poles and lines of force. (SC.912.P.10.16)
- The Sun is the major source of energy for phenomena on Earth's surface. (SC.3.L.17.2; SC.3.E.5.2; SC.3.E.6.1; SC.4.P.10.4; SC.4.L.17.2)

- Water, which covers the majority of Earth's surface, circulates through the crust, oceans, and atmosphere in what is known as the water cycle. (SC.5.E.7.1; SC.5.E.7.2; SC.5.E.7.6)
- A tiny fraction of the light energy from the Sun is Earth's primary source of energy, heating Earth surfaces and providing the energy that results in wind, ocean currents, and storms.(SC.2.E.7.2; SC.3.E.6.1)
- Following fertilization, cell division produces a small cluster of cells that then differentiate by appearance and function to form the basic tissues of an embryo. (SC.912.L.16.13)
- Characteristics of organisms are influenced by heredity and environment. (SC.4.L.16.2 and SC.4.L.16.3)
- Nuclear reactions take place in the Sun. (SC.912.P.10.10; SC.912.P.10.11)

The NAEP frameworks for Science may be accessed at nagb.org/publications/frameworks/science-09.pdf

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2002110

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >
Abbreviated Title: M/J COMP SCI 3 ADV
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)

M/J Science 3 Cambridge Lower Secondary (#2002115) 2014 - 2022 (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-secondary-1/cambridge-secondary-1/curriculum/.

GENERAL INFORMATION

Course Number: 2002115

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J SCI 3 CLS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)

M/J International Baccalaureate MYP Comprehensive Science 3 (#2002120) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2002120

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J IB MYP COMP SCI3

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

Science (Elementary Grades 1-6)
Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)

M/J STEM Environmental Science (#2002200) 2015 - 2022 (current)

Course Standards

Name	Description
SC.6.E.7.1:	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
SC.6.E.7.2:	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
SC.6.E.7.3:	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
SC.6.E.7.4:	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.
SC.6.E.7.5:	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
SC.6.E.7.6:	Differentiate between weather and climate.
SC.6.E.7.7:	Investigate how natural disasters have affected human life in Florida.
SC.6.E.7.8:	Describe ways human beings protect themselves from hazardous weather and sun exposure.
SC.6.E.7.9:	Describe how the composition and structure of the atmosphere protects life and insulates the planet.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.7.E.6.6:	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
SC.7.L.15.3:	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.
SC.7.L.17.1:	Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
SC.7.L.17.2:	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.
SC.7.L.17.3:	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
MAFS.6.SP.1.1:	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
MAFS.6.SP.1.2:	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.SP.1.1:	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.SP.1.2:	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
HE.7.C.1.3:	Analyze how environmental factors affect personal health. **Clarifications:** Food refrigeration, appropriate home heating and cooling, air/water quality, and garbage/trash collection.

General Course Information and Notes

GENERAL NOTES

This course is an integrated Science, Technology, Engineering and Mathematics (STEM) course for middle school students. M/J STEM Environmental Science includes an integration of standards from science, mathematics, and english language arts (ELA) through the application to STEM problem solving using environmental sciences knowledge and science and engineering practices. Environmental sciences through applications such as ecosystem management, human-environmental impact, ecology and agriculture, land and resource management, and civil and environmental engineering, are emphasized in this course. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

ISTE Standards (iste.org/docs/pdfs/20-14_ISTE_Standards-S_PDF.pdf) should be incorporated in many contexts throughout the course.

Course Standards

Use grade appropriate Nature of Science and Mathematics Content benchmarks (i.e. if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and

concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 2002200

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: M/J STEM ENV SCI

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Middle Grades General Science (Middle Grades 5-9)
Earth/Space Science (Grades 6-12)
Chemistry (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Biology (Grades 6-12)

Experimental Science 1 Honors (#2002340) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software.

MAFS.K12.MP.5.1:	Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
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SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
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SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
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GENERAL NOTES

In addition to the course related benchmarks, this course requires additional science content that must include benchmarks from at least one other Body of Knowledge. The additional benchmarks must include rigor appropriate for Level 3 courses. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

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Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
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Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** General Sciences >
Abbreviated Title: EXP SCI 1 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)

Experimental Science 2 Honors (#2002350) 2015 - 2022 (current)

Course Standards

Name	Description
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software.

MAFS.K12.MP.5.1:	Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
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- Engaging in argument from evidence.
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Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** General Sciences > **Abbreviated Title:** EXP SCI 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Biology (Grades 6-12)

Earth/Space Science (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)

Experimental Science 3 Honors (#2002360) 2015 - 2022 (current)

Course Standards

Name	Description
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LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
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LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

In addition to the course related benchmarks, this course requires additional science content that must include benchmarks from at least one other Body of Knowledge. The additional benchmarks must include rigor appropriate for Level 3 courses and should not duplicate additional content addressed in Experimental Science 1 and 2. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

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GENERAL INFORMATION

Course Number: 2002360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** General Sciences > **Abbreviated Title:** EXP SCI 3 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)

Experimental Science 4 Honors (#2002370) 2015 - 2022 (current)

Course Standards

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LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

In addition to the course related benchmarks, this course requires additional science content that must include benchmarks from at least one other Body of Knowledge. The additional benchmarks must include rigor appropriate for Level 3 courses and should not duplicate additional content addressed in Experimental Science 1, 2 and 3. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002370

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** General Sciences > **Abbreviated Title:** EXP SCI 4 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)

Integrated Science 1 (#2002400) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.1:	Cite evidence used to develop and verify the scientific theory of the Big Bang (also known as the Big Bang Theory) of the origin of the universe.
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.6.1:	Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.6.3:	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.

SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

	d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context

	of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.

- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Abbreviated Title:** INTEG SCI 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)

Integrated Science 1 Honors (#2002410) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.1:	Cite evidence used to develop and verify the scientific theory of the Big Bang (also known as the Big Bang Theory) of the origin of the universe.
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.6.1:	Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.6.3:	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.2:	Describe the important structural characteristics of monosaccharides, disaccharides, and polysaccharides and explain the functions of carbohydrates in living things.
SC.912.L.18.3:	Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.
SC.912.L.18.4:	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-

	up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.8:	Explain entropy's role in determining the efficiency of processes that convert energy to work.
SC.912.P.10.19:	Explain that all objects emit and absorb electromagnetic radiation and distinguish between objects that are blackbody radiators and those that are not.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.8:	Recognize that Newton's Laws are a limiting case of Einstein's Special Theory of Relativity at speeds that are much smaller than the speed of light.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★

MAFS.912.S-ID.1.1:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically.

MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.

	d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Integrated Science 1 course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access

an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2002410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: INTEG SCI 1 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)

International Baccalaureate Mid Years Prog Integrated Science (#2002415) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2002415

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: IB MYP INTEG SCI

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Biology (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)

Integrated Science 2 (#2002420) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.3:	Describe and predict how the initial mass of a star determines its evolution.
SC.912.E.5.5:	Explain the formation of planetary systems based on our knowledge of our Solar System and apply this knowledge to newly discovered planetary systems.
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger,

	leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.P.8.6:	Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.9:	Apply the mole concept and the law of conservation of mass to calculate quantities of chemicals participating in reactions.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.8.13:	Identify selected functional groups and relate how they contribute to properties of carbon compounds.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and

LAFS.910.WHST.1.2:	examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other

	mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002420

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Abbreviated Title:** INTEG SCI 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)

Integrated Science 2 Honors (#2002430) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.3:	Describe and predict how the initial mass of a star determines its evolution.
SC.912.E.5.5:	Explain the formation of planetary systems based on our knowledge of our Solar System and apply this knowledge to newly discovered planetary systems.
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.E.7.2:	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.L.14.5:	Explain the evidence supporting the scientific theory of the origin of eukaryotic cells (endosymbiosis).
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.27:	Identify the functions of the major parts of the brain, including the meninges, medulla, pons, midbrain, hypothalamus, thalamus, cerebellum and cerebrum.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,**

	8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.P.8.6:	Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.9:	Apply the mole concept and the law of conservation of mass to calculate quantities of chemicals participating in reactions.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.8.13:	Identify selected functional groups and relate how they contribute to properties of carbon compounds.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★

MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully

	formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
HE.912.C.1.5:	Analyze strategies for prevention, detection, and treatment of communicable and chronic diseases. **Clarifications:** Health prevention, detection, and treatment of: breast and testicular cancer, suicide, obesity, and industrial-related chronic disease.
HE.912.C.1.7:	Analyze how heredity and family history can impact personal health. **Clarifications:** Drug use, family obesity, heart disease, mental health, and non-communicable illness or disease.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Integrated Science 2 course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002430

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Abbreviated Title:** INTEG SCI 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)

Integrated Science 3 (#2002440) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.6.4:	Analyze how specific geologic processes and features are expressed in Florida and elsewhere.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).

SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.10:	Describe oxidation-reduction reactions in living and non-living systems.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
SC.912.P.12.13:	Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience,

	and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★

	Make sense of problems and persevere in solving them.
MAFS.K12.MP.1.1:	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Standard Relation to Course: Supporting
	Reason abstractly and quantitatively.
MAFS.K12.MP.2.1:	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
	Standard Relation to Course: Supporting
	Construct viable arguments and critique the reasoning of others.
MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Standard Relation to Course: Supporting
	Model with mathematics.
MAFS.K12.MP.4.1:	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Standard Relation to Course: Supporting
	Use appropriate tools strategically.
MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
	Standard Relation to Course: Supporting
	Attend to precision.
MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Standard Relation to Course: Supporting
	Look for and make use of structure.
MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
	Look for and express regularity in repeated reasoning.

MAFS.K12.MP.8.1:	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
	Standard Relation to Course: Supporting
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002440

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: INTEG SCI 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)

Integrated Science 3 Honors (#2002450) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.6.4:	Analyze how specific geologic processes and features are expressed in Florida and elsewhere.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.2:	Discuss the use of molecular clocks to estimate how long ago various groups of organisms diverged evolutionarily from one another.
SC.912.L.15.3:	Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-

	up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.P.8.10:	Describe oxidation-reduction reactions in living and non-living systems.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.13:	Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.17:	Explore the theory of electromagnetism by explaining electromagnetic waves in terms of oscillating electric and magnetic fields.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
SC.912.P.12.13:	Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.

	c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Integrated Science 3 course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work.

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.

- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002450

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Abbreviated Title:** INTEG SCI 3 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)

Forensic Science 1 (#2002480) 2017 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.11:	Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
SC.912.L.14.12:	Describe the anatomy and histology of bone tissue.
SC.912.L.14.34:	Describe the composition and physiology of blood, including that of the plasma and the formed elements.
SC.912.L.14.35:	Describe the steps in hemostasis, including the mechanism of coagulation. Include the basis for blood typing and transfusion reactions.
SC.912.L.14.51:	Describe the function of the vertebrate integumentary system.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.

SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic;

	convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of

	quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2002480

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Abbreviated Title:** FOR SCI 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Middle Grades General Science (Middle Grades 5-9)
Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)

Forensic Sciences 2 (#2002490) 2017 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.11:	Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
SC.912.L.14.12:	Describe the anatomy and histology of bone tissue.
SC.912.L.14.13:	Distinguish between bones of the axial skeleton and the appendicular skeleton.
SC.912.L.14.14:	Identify the major bones of the axial and appendicular skeleton.
SC.912.L.14.15:	Identify major markings (such as foramina, fossae, tubercles, etc.) on a skeleton. Explain why these markings are important.
SC.912.L.14.16:	Describe the anatomy and histology, including ultrastructure, of muscle tissue.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.43:	Describe the histology of the respiratory system.
SC.912.L.14.44:	Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.
SC.912.L.14.46:	Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.
SC.912.L.14.47:	Describe the physiology of urine formation by the kidney.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.18.3:	Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.
SC.912.L.18.4:	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.

SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.10:	Describe oxidation-reduction reactions in living and non-living systems.
SC.912.P.8.13:	Identify selected functional groups and relate how they contribute to properties of carbon compounds.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.13:	Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships

	between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending

MAFS.K12.MP.1.1:	on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to

	solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002490

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Abbreviated Title:** FOR SCI 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Middle Grades General Science (Middle Grades 5-9)

Earth/Space Science (Grades 6-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)

Marine Science 1 (#2002500) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.

SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and

	formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.

- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2002500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences > **Abbreviated Title:** MARINE SCI 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Biology (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Science (Secondary Grades 7-12)

Marine Science 1 Honors (#2002510) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.6:	Relate the formation of severe weather to the various physical factors.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.17.1:	Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.6:	Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.17.18:	Describe how human population size and resource use relate to environmental quality.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.

SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of

	quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–

LAFS.1112.SL.1.1:	12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Marine Science I course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National

Research Council, 2006, p.77; NSTA, 2007).

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2002510

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences > **Abbreviated Title:** MARINE SCI 1 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Biology (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Science (Secondary Grades 7-12)

Cambridge AICE Marine Science 1 AS Level (#2002515) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2002515

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences >

Abbreviated Title: AICE MARINE SCI 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Chemistry (Grades 6-12)
Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Marine Science 2 (#2002520) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.18.2:	Describe the important structural characteristics of monosaccharides, disaccharides, and polysaccharides and explain the functions of carbohydrates in living things.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★

MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete

	referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002520

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences > **Abbreviated Title:** MARINE SCI 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Biology (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Science (Secondary Grades 7-12)

Marine Science 2 Honors (#2002530) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.2:	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.5:	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.7:	Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.

SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
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MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
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MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others.

MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Marine Science 2 course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by

the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002530

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences > **Abbreviated Title:** MARINE SCI 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Biology (Grades 6-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Science (Secondary Grades 7-12)

Cambridge AICE Marine Science 2 A Level (#2002535) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2002535

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences >

Abbreviated Title: AICE MARINE SCI 2 AL

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)
Biology (Grades 6-12)
Physics (Grades 6-12)

Solar Energy Honors (#2002540) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.2:	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.12:	Discuss the political, social, and environmental consequences of sustainable use of land.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.17.18:	Describe how human population size and resource use relate to environmental quality.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.8.13:	Identify selected functional groups and relate how they contribute to properties of carbon compounds.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.

SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others.

MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools,

materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2002540

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Abbreviated Title:** SOLAR ENERGY HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Biology (Grades 6-12)
Chemistry (Grades 6-12)

International Baccalaureate Marine Science 1 (#2002800) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2002800

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences >

Abbreviated Title: IB MARINE SCI 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Chemistry (Grades 6-12)
Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Science (Secondary Grades 7-12)
Physics (Grades 6-12)

International Baccalaureate Marine Science 2 (#2002810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2002810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Marine Sciences >

Abbreviated Title: IB MARINE SCI 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Chemistry (Grades 6-12)
Biology (Grades 6-12)
Earth/Space Science (Grades 6-12)
Science (Secondary Grades 7-12)
Physics (Grades 6-12)

M/J Physical Science (#2003010) 2015 - 2022 (current)

Course Standards

Use grade appropriate Nature of Science benchmarks (i.e. if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Name	Description
SC.6.N.1.1:	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.6.P.11.1:	Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.
SC.6.P.12.1:	Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.
SC.6.P.13.1:	Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
SC.6.P.13.2:	Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.
SC.6.P.13.3:	Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.7.P.10.1:	Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.
SC.7.P.10.2:	Observe and explain that light can be reflected, refracted, and/or absorbed.
SC.7.P.10.3:	Recognize that light waves, sound waves, and other waves move at different speeds in different materials.
SC.7.P.11.1:	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.
SC.7.P.11.2:	Investigate and describe the transformation of energy from one form to another.
SC.7.P.11.3:	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.
SC.7.P.11.4:	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.

SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
SC.8.P.8.1:	Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.
SC.8.P.8.2:	Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.
SC.8.P.8.3:	Explore and describe the densities of various materials through measurement of their masses and volumes.
SC.8.P.8.4:	Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.
SC.8.P.8.5:	Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.
SC.8.P.8.6:	Recognize that elements are grouped in the periodic table according to similarities of their properties.
SC.8.P.8.7:	Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).
SC.8.P.8.8:	Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.
SC.8.P.8.9:	Distinguish among mixtures (including solutions) and pure substances.
SC.8.P.9.1:	Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.
SC.8.P.9.2:	Differentiate between physical changes and chemical changes.
SC.8.P.9.3:	Investigate and describe how temperature influences chemical changes.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.RST.4.10:	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.

	d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context

	of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.

- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:

A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2003010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: M/J PHY SCI

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Physics (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)

M/J Physical Science, Advanced (#2003020) 2015 - 2022 (current)

Course Standards

Use grade appropriate Nature of Science benchmarks (i.e. if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Name	Description
SC.6.P.11.1:	Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.
SC.6.P.12.1:	Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.
SC.6.P.13.1:	Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
SC.6.P.13.2:	Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.
SC.6.P.13.3:	Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
SC.7.N.1.1:	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.7.P.10.1:	Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.
SC.7.P.10.2:	Observe and explain that light can be reflected, refracted, and/or absorbed.
SC.7.P.10.3:	Recognize that light waves, sound waves, and other waves move at different speeds in different materials.
SC.7.P.11.1:	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.
SC.7.P.11.2:	Investigate and describe the transformation of energy from one form to another.
SC.7.P.11.3:	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.
SC.7.P.11.4:	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.
SC.8.N.1.1:	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
SC.8.P.8.1:	Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.
SC.8.P.8.2:	Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.
SC.8.P.8.3:	Explore and describe the densities of various materials through measurement of their masses and volumes.
SC.8.P.8.4:	Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.
SC.8.P.8.5:	Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.
SC.8.P.8.6:	Recognize that elements are grouped in the periodic table according to similarities of their properties.
SC.8.P.8.7:	Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).
SC.8.P.8.8:	Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.
SC.8.P.8.9:	Distinguish among mixtures (including solutions) and pure substances.

SC.8.P.9.1:	Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.
SC.8.P.9.2:	Differentiate between physical changes and chemical changes.
SC.8.P.9.3:	Investigate and describe how temperature influences chemical changes.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
LAFS.68.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts.
LAFS.68.RST.1.2:	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
LAFS.68.RST.1.3:	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
LAFS.68.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
LAFS.68.RST.2.5:	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.RST.4.10:	By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.

LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.8.SL.2.5:	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
MAFS.7.SP.2.4:	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5:	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.8.F.2.5:	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
MAFS.8.G.3.9:	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Clarifications:** **Fluency Expectations or Examples of Culminating Standards** When students learn to solve problems involving volumes of cones, cylinders, and spheres — together with their previous grade 7 work in angle measure, area, surface area and volume (7.G.2.4–2.6) — they will have acquired a well-developed set of geometric measurement skills. These skills, along with proportional reasoning (7.RP) and multistep numerical problem solving (7.EE.2.3), can be combined and used in flexible ways as part of modeling during high school — not to mention after high school for college and careers.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

	Standard Relation to Course: Supporting
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC 2006, p. 77; NSTA, 2007).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course

standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2003020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: M/J PHY SCI ADV

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

Science (Secondary Grades 7-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Physics (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Earth/Space Science (Grades 6-12)

M/J STEM Physical Science (#2003030) 2015 - 2022 (current)

Course Standards

Name	Description
SC.6.N.1.2:	Explain why scientific investigations should be replicable.
SC.6.N.1.3:	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.
SC.6.N.1.4:	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.
SC.6.N.1.5:	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.N.2.1:	Distinguish science from other activities involving thought.
SC.6.N.2.2:	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
SC.6.N.2.3:	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
SC.6.N.3.1:	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
SC.6.N.3.2:	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
SC.6.N.3.3:	Give several examples of scientific laws.
SC.6.N.3.4:	Identify the role of models in the context of the sixth grade science benchmarks.
SC.6.P.11.1:	Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.
SC.6.P.12.1:	Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.
SC.6.P.13.1:	Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
SC.6.P.13.2:	Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.
SC.6.P.13.3:	Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
SC.7.N.1.2:	Differentiate replication (by others) from repetition (multiple trials).
SC.7.N.1.3:	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.
SC.7.N.1.4:	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.
SC.7.N.1.5:	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
SC.7.N.1.6:	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.
SC.7.N.1.7:	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.
SC.7.N.2.1:	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.
SC.7.N.3.1:	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.
SC.7.N.3.2:	Identify the benefits and limitations of the use of scientific models.
SC.7.P.10.1:	Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.
SC.7.P.10.2:	Observe and explain that light can be reflected, refracted, and/or absorbed.
SC.7.P.10.3:	Recognize that light waves, sound waves, and other waves move at different speeds in different materials.
SC.7.P.11.1:	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.
SC.7.P.11.2:	Investigate and describe the transformation of energy from one form to another.
SC.7.P.11.3:	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.
SC.7.P.11.4:	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.
SC.8.N.1.2:	Design and conduct a study using repeated trials and replication.
SC.8.N.1.3:	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.
SC.8.N.1.4:	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.
SC.8.N.1.5:	Analyze the methods used to develop a scientific explanation as seen in different fields of science.
SC.8.N.1.6:	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
SC.8.N.2.1:	Distinguish between scientific and pseudoscientific ideas.
SC.8.N.2.2:	Discuss what characterizes science and its methods.
SC.8.N.3.1:	Select models useful in relating the results of their own investigations.
SC.8.N.3.2:	Explain why theories may be modified but are rarely discarded.
SC.8.N.4.1:	Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
SC.8.N.4.2:	Explain how political, social, and economic concerns can affect science, and vice versa.
MAFS.6.SP.1.1:	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
MAFS.6.SP.1.2:	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
MAFS.6.SP.1.3:	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
	Summarize numerical data sets in relation to their context, such as by:

MAFS.6.SP.2.5:	a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MAFS.7.SP.1.1:	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
MAFS.8.SP.1.2:	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and

	can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
LAFS.68.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
LAFS.68.RST.3.7:	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
LAFS.68.RST.3.8:	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
LAFS.68.RST.3.9:	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

GENERAL NOTES

If this course is to be used in a STEM sequence in place of either the comprehensive or subject specific course sequences, teachers should refer to the test item specifications for the 8th grade SSA for information on tested standards which can be found at: fldoe.org/core/fileparse.php/5663/urlt/swsatisG8.pdf.

This course is an integrated Science, Technology, Engineering and Mathematics (STEM) course for middle school students. M/J STEM Physical Science includes an integration of standards from science, mathematics, and english/language arts (ELA) through the application to STEM problem solving using physical science knowledge and science and engineering practices. Physical sciences through applications such as aeronautics, robotics, rocketry, mechanical, electrical, and civil engineering, are emphasized in this course. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the middle school level, all students should have multiple opportunities every week to explore science laboratory investigations (labs). School laboratory investigations are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by other using tools, materials, data collection techniques, and modeals (NRC, 2006, p. 3). Laboratory investigations in the middle school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (NRC, 2006, p. 77; NSTA, 2007).

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- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

ISTE Standards (iste.org/docs/pdfs20-14_ISTE_Standards-S_PDF.pdf) should be incorporated in many contexts throughout the course.

Course Standards

Use grade appropriate Nature of Science and Mathematics Content (MAFS) benchmarks (i.e., if this course is offered to seventh grade students, then the SC.7.N benchmarks should be integrated into the course content, and SC.6.N and SC.8.N benchmarks should be omitted from the seventh grade course).

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 2003030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >
Abbreviated Title: M/J STEM PHYSIC SCI
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Type: Core Academic Course
Course Status: Draft - Course Pending Approval
Grade Level(s): 6,7,8

Course Level: 2

Educator Certifications

Middle Grades General Science (Middle Grades 5-9)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Earth/Space Science (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)

Physical Science (#2003310) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.

SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

LAFS.910.WHST.1.2:	c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices: Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course

standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2003310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences > **Abbreviated Title:** PHY SCI

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Chemistry (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Physical Science Honors (#2003320) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.

SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and

	reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.1:	Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\boldsymbol{v}$, $\lvert\boldsymbol{v}\rvert$, $\lvert\lvert\boldsymbol{v}\rvert\rvert$, $\boldsymbol{v}$).
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.*

MAFS.912.S-ID.2.6:	b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven

MAFS.K12.MP.7.1:	more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Physical Science course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices: Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2003320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: PHY SCI HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Earth/Space Science (Grades 6-12)
Physics (Grades 6-12)
Chemistry (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)

Chemistry 1 (#2003340) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.6:	Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.9:	Apply the mole concept and the law of conservation of mass to calculate quantities of chemicals participating in reactions.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.

SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
SC.912.P.12.13:	Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by

MAFS.K12.MP.3.1:	breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should

understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2003340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry > **Abbreviated Title:** CHEM 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Equivalent Courses

2003350-Chemistry 1 Honors
2003800-Florida's Preinternational Baccalaureate Chemistry 1

Chemistry 1 for Credit Recovery (#2003345) 2015 - 2022 (current)

Course Standards

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SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.6:	Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.9:	Apply the mole concept and the law of conservation of mass to calculate quantities of chemicals participating in reactions.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.

SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
SC.912.P.12.13:	Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by

MAFS.K12.MP.3.1:	breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should

understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes: *Credit Recovery courses are credit bearing courses with specific content requirements defined by Next Generation Sunshine State Standards and/or Florida Standards. Students enrolled in a Credit Recovery course must have previously attempted the corresponding course (and/or End-of-Course assessment) since the course requirements for the Credit Recovery course are exactly the same as the previously attempted corresponding course. For example, Geometry (1206310) and Geometry for Credit Recovery (1206315) have identical content requirements. It is important to note that Credit Recovery courses are not bound by Section 1003.436(1)(a), Florida Statutes, requiring a minimum of 135 hours of bona fide instruction (120 hours in a school/district implementing block scheduling) in a designed course of study that contains student performance standards, since the students have previously attempted successful completion of the corresponding course. Additionally, Credit Recovery courses should ONLY be used for credit recovery, grade forgiveness, or remediation for students needing to prepare for an End-of-Course assessment retake.*

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science

Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2003345

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry > **Abbreviated Title:** CHEM 1 CR

Number of Credits: One (1) credit

Course Length: Credit Recovery (R)

Course Type: Credit Recovery

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Chemistry 1 Honors (#2003350) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.6:	Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.9:	Apply the mole concept and the law of conservation of mass to calculate quantities of chemicals participating in reactions.
SC.912.P.8.10:	Describe oxidation-reduction reactions in living and non-living systems.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.8.13:	Identify selected functional groups and relate how they contribute to properties of carbon compounds.

SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.8:	Explain entropy's role in determining the efficiency of processes that convert energy to work.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
SC.912.P.12.13:	Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.

	d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw

	diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

	Standard Relation to Course: Supporting
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Chemistry I course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices:
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2003350

Number of Credits: One (1) credit

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science >
SubSubject: Chemistry >
Abbreviated Title: CHEM 1 HON
Course Length: Year (Y)
Course Attributes:

- Honors

Course Type: Core Academic Course **Course Level:** 3
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12
Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Equivalent Courses

2003340-Chemistry 1
2003800-Florida's Preinternational Baccalaureate Chemistry 1

Chemistry 2 Honors (#2003360) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.2:	Describe the important structural characteristics of monosaccharides, disaccharides, and polysaccharides and explain the functions of carbohydrates in living things.
SC.912.L.18.3:	Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.
SC.912.L.18.4:	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.10:	Describe oxidation-reduction reactions in living and non-living systems.

SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.8.13:	Identify selected functional groups and relate how they contribute to properties of carbon compounds.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.8:	Explain entropy's role in determining the efficiency of processes that convert energy to work.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and

LAFS.1112.WHST.3.8:	limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

	Standard Relation to Course: Supporting
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures,

and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices: Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2003360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry > **Abbreviated Title:** CHEM 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Equivalent Courses

2003820-Chemistry 3-International Baccalaureate

Pre-Advanced Placement Chemistry (#2003365) 2020 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

The course description for this Pre-Advanced Placement (Pre-AP) course is located on the College Board site at pre-ap.collegeboard.org/courses.

GENERAL INFORMATION

Course Number: 2003365

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: PRE-AP CHEMISTRY

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Chemistry (Grades 6-12)
Science (Secondary Grades 7-12)

Advanced Placement Chemistry (#2003370) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2003370

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: AP CHEM

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Equivalent Courses

2003371-Cambridge AICE Chemistry 1 AS Level

Cambridge AICE Chemistry 1 AS Level (#2003371) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2003371

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: AICE CHEM 1 AS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Equivalent Courses

2003370-Advanced Placement Chemistry

Cambridge Pre-AICE Chemistry IGCSE Level (#2003372) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 2003372

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: PRE-AICE CHEM IG

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Cambridge AICE Chemistry 2 A Level (#2003373) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2003373

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: AICE CHEM 2 AL

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Physics 1 (#2003380) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.13:	Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.

SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning

	from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices:

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2003380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences > **Abbreviated Title:** PHYS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Physics 1 Honors (#2003390) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.8:	Explain entropy's role in determining the efficiency of processes that convert energy to work.

SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.13:	Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.17:	Explore the theory of electromagnetism by explaining electromagnetic waves in terms of oscillating electric and magnetic fields.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.8:	Recognize that Newton's Laws are a limiting case of Einstein's Special Theory of Relativity at speeds that are much smaller than the speed of light.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.1:	Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\boldsymbol{v}$, $\lvert\boldsymbol{v}\rvert$, $\lVert\boldsymbol{v}\rVert$, $\boldsymbol{v}$).
MAFS.912.N-VM.1.2:	Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association.

	Clarifications: Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and

	can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or

	the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Physics I course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

Additional Instructional Resources:
A.V.E. for Success Collection is provided by the Florida Association of School Administrators: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139. Please be aware that these resources have not been reviewed by CPALMS and there may be a charge for the use of some of them in this collection.

GENERAL INFORMATION

Course Number: 2003390

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: PHYS 1 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Physics 2 Honors (#2003410) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.5.10:	Describe and apply the coordinate system used to locate objects in the sky.
SC.912.E.5.11:	Distinguish the various methods of measuring astronomical distances and apply each in appropriate situations.
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.L.15.2:	Discuss the use of molecular clocks to estimate how long ago various groups of organisms diverged evolutionarily from one another.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.

SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.8:	Explain entropy's role in determining the efficiency of processes that convert energy to work.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.17:	Explore the theory of electromagnetism by explaining electromagnetic waves in terms of oscillating electric and magnetic fields.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.19:	Explain that all objects emit and absorb electromagnetic radiation and distinguish between objects that are blackbody radiators and those that are not.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.8:	Recognize that Newton's Laws are a limiting case of Einstein's Special Theory of Relativity at speeds that are much smaller than the speed of light.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a

LAFS.1112.WHST.1.2:	unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.1:	Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\boldsymbol{v}$, $\lvert\boldsymbol{v}\rvert$, $\lVert\boldsymbol{v}\rVert$, $\boldsymbol{v}$).
MAFS.912.N-VM.1.2:	Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.

	Make sense of problems and persevere in solving them.
MAFS.K12.MP.1.1:	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Standard Relation to Course: Supporting
	Reason abstractly and quantitatively.
MAFS.K12.MP.2.1:	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
	Standard Relation to Course: Supporting
	Construct viable arguments and critique the reasoning of others.
MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Standard Relation to Course: Supporting
	Model with mathematics.
MAFS.K12.MP.4.1:	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Standard Relation to Course: Supporting
	Use appropriate tools strategically.
MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
	Standard Relation to Course: Supporting
	Attend to precision.
MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Standard Relation to Course: Supporting
	Look for and make use of structure.
MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting

	Look for and express regularity in repeated reasoning.
MAFS.K12.MP.8.1:	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
	Standard Relation to Course: Supporting
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:
1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2003410

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >
Abbreviated Title: PHYS 2 HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Advanced Placement Physics 1 (#2003421) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2003421

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: AP PHYSICS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Advanced Placement Physics 2 (#2003422) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2003422

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: AP PHYSICS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Advanced Placement Physics C: Electricity and Magnetism (#2003425) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2003425

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: AP PHYSICS: E&M

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Equivalent Courses

2003431-Cambridge AICE Physics 1 AS Level

Advanced Placement Physics C: Mechanics (#2003430) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2003430

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: AP PHYSICS C: ME

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Equivalent Courses

2003431-Cambridge AICE Physics 1 AS Level

Cambridge AICE Physics 1 AS Level (#2003431) 2014 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2003431

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: AICE PHYSICS 1 AS

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Equivalent Courses

2003430-Advanced Placement Physics C: Mechanics
2003425-Advanced Placement Physics C: Electricity, Magnetism

Cambridge Pre-AICE Physics IGCSE Level (#2003432) 2014

- And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-secondary-2/cambridge-igcse/curriculum/.

GENERAL INFORMATION

Course Number: 2003432

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: PRE-AICE PHYSICS IG

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Cambridge AICE Physics 2 A Level (#2003433) 2014 - And Beyond

(current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2003433

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: AICE PHYSICS 2 AL

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Level: 3

Educator Certifications

Physics (Grades 6-12)
Science (Secondary Grades 7-12)

Renewable Energy 1 Honors (#2003500) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.6.4:	Analyze how specific geologic processes and features are expressed in Florida and elsewhere.
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.E.7.2:	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.
SC.912.E.7.3:	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.4:	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.E.7.8:	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
SC.912.E.7.9:	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.12:	Discuss the political, social, and environmental consequences of sustainable use of land.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.14:	Assess the need for adequate waste management strategies.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.17.18:	Describe how human population size and resource use relate to environmental quality.
SC.912.L.17.19:	Describe how different natural resources are produced and how their rates of use and renewal limit availability.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.

SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.17:	Explore the theory of electromagnetism by explaining electromagnetic waves in terms of oscillating electric and magnetic fields.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

LAFS.1112.WHST.1.2:	b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other

	mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.
SS.912.C.2.8:	Analyze the impact of citizen participation as a means of achieving political and social change. **Clarifications:** Examples are e-mail campaigns, boycotts, blogs, podcasts, protests, demonstrations, letters to editors.

General Course Information and Notes

VERSION DESCRIPTION

The course content includes: an introduction to energy technology, renewable energy in a sustainable future, the science behind climate change, environmental impacts and economics, and careers in renewable energy. Students will be introduced to different types of renewable energy technologies, how they work, their advantages, disadvantages, and limitations. The types of renewable energies and technologies studied include: wind energy, solar (thermal and photovoltaic), hydro-electric, bio-energy, tidal power, wave energy, geothermal energy, ocean thermal, fuel cells, heat pump systems, and high voltage DC energy transport. The availability and integration of these energy types and technologies are also studied to understand how renewable energy can work as a compliment to and replacement for conventional technologies.

GENERAL NOTES

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.

4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2003500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: RENEWABLE ENERGY 1 H

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Chemistry (Grades 6-12)
Physics (Grades 6-12)

Principles of Technology 1 (#2003600) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.13:	Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.

SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.2:	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.
LAFS.910.RST.2.5:	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
LAFS.910.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.RST.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
LAFS.910.RST.3.9:	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
LAFS.910.RST.4.10:	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

	Standard Relation to Course: Supporting
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2003600

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: PRINC TECH 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

Florida's Preinternational Baccalaureate Chemistry 1 (#2003800) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.2:	Differentiate between physical and chemical properties and physical and chemical changes of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.8.6:	Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.
SC.912.P.8.7:	Interpret formula representations of molecules and compounds in terms of composition and structure.
SC.912.P.8.8:	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.
SC.912.P.8.9:	Apply the mole concept and the law of conservation of mass to calculate quantities of chemicals participating in reactions.
SC.912.P.8.11:	Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.
SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.12.10:	Interpret the behavior of ideal gases in terms of kinetic molecular theory.
SC.912.P.12.11:	Describe phase transitions in terms of kinetic molecular theory.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
SC.912.P.12.13:	Explain the concept of dynamic equilibrium in terms of reversible processes occurring at the same rates.
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem

MAFS.K12.MP.1.1:	in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x$

	+ 1), $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**

General Course Information and Notes

GENERAL NOTES

Special Note. *Pre-IB courses have been created by individual schools or school districts since before the MYP started. These courses mapped backwards the Diploma Programme (DP) to prepare students as early as age 14. The IB was never involved in creating or approving these courses. The IB acknowledges that it is important for students to receive preparation for taking part in the DP, and that preparation is the MYP. The IB designed the MYP to address the whole child, which, as a result, has a very different philosophical approach that aims at educating all students aged 11-16. Pre-IB courses usually deal with content, with less emphasis upon the needs of the whole child or the affective domain than the MYP. A school can have a course that it calls "pre-IB" as long as it makes it clear that the course and any supporting material have been developed independently of the IB. For this reason, the school must name the course along the lines of, for example, the "Any School pre-IB course".*

The IB does not recognize pre-IB courses or courses labeled IB by different school districts which are not an official part of the IBDP or IBCC curriculum. Typically, students enrolled in grade 9 or 10 are not in the IBDP or IBCC programmes.

ibanswers.ibo.org/app/answers/detail/a_id/5414/kw/pre-ib. **Florida's Pre-IB courses should only be used in schools where MYP is not offered in order to prepare students to enter the IBDP. Teachers of Florida's Pre-IB courses should have undergone IB training in order to ensure seamless articulation for students within the subject area.**

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2003800	**Course Path: Section:** Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry > **Abbreviated Title:** FL PRE-IB CHEM 1
Number of Credits: One (1) credit	**Course Length:** Year (Y)
	Course Attributes: • Honors
Course Type: Core Academic Course	**Course Level:** 3
Course Status: Draft - Course Pending Approval	
Grade Level(s): 9,10	
Graduation Requirement: Equally Rigorous Science	

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Equivalent Courses

2003340-Chemistry 1
2003350-Chemistry 1 Honors

International Baccalaureate Chemistry 1 (#2003805) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2003805

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: IB CHEMISTRY 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

International Baccalaureate Chemistry 2 (#2003810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2003810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: IB CHEM 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

International Baccalaureate Chemistry 3 (#2003820) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2003820

Number of Credits: One (1) credit

Course Type: Core Academic Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: IB CHEM 3

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)

Equivalent Courses

2003360-Chemistry 2 Honors

International Baccalaureate Mid Years Prog Chemistry (#2003830) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2003830

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Chemistry >

Abbreviated Title: IB MYP CHEM

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Chemistry (Grades 6-12)
Science (Secondary Grades 7-12)
Middle Grades General Science (Middle Grades 5-9)

Florida's Preinternational Baccalaureate Physics 1 (#2003836) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.6:	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.10.1:	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.3:	Compare and contrast work and power qualitatively and quantitatively.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.5:	Relate temperature to the average molecular kinetic energy.

SC.912.P.10.6:	Create and interpret potential energy diagrams, for example: chemical reactions, orbits around a central body, motion of a pendulum.
SC.912.P.10.7:	Distinguish between endothermic and exothermic chemical processes.
SC.912.P.10.8:	Explain entropy's role in determining the efficiency of processes that convert energy to work.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.13:	Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.
SC.912.P.10.14:	Differentiate among conductors, semiconductors, and insulators.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.17:	Explore the theory of electromagnetism by explaining electromagnetic waves in terms of oscillating electric and magnetic fields.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.1:	Distinguish between scalar and vector quantities and assess which should be used to describe an event.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.8:	Recognize that Newton's Laws are a limiting case of Einstein's Special Theory of Relativity at speeds that are much smaller than the speed of light.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

	d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.910.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
LAFS.910.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
LAFS.910.RST.3.7:	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
MAFS.912.A-CED.1.4:	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.* ★
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-GMD.1.3:	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.N-VM.1.1:	Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\boldsymbol{v}$, $\lvert\boldsymbol{v}\rvert$, $\lvert\lvert\boldsymbol{v}\rvert\rvert$, $\boldsymbol{v}$).
MAFS.912.N-VM.1.2:	Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
MAFS.912.N-VM.1.3:	Solve problems involving velocity and other quantities that can be represented by vectors.
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★

MAFS.912.S-ID.1.1:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools

MAFS.K12.MP.5.1:	might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Physics 1 course, students will explore these concepts in greater depth as preparatory work for the IB Physics course(s). In general, the academic pace and rigor will be greatly increased for pre-IB level coursework. Coursework should include opportunities for students to develop their understanding of both theory and experiments, developing traditional practical skills and techniques while also developing interpersonal and digital communication skills in preparation for the IB Physics course.

Integral to the experience of students in Pre-IB Physics courses is their experience in the classroom laboratory or in the field. Practical activities allow students to interact directly with natural phenomena and secondary data sources. These experiences provide the students with the opportunity to design investigations, collect data, develop manipulative skills, analyze results, collaborate with peers and evaluate and communicate their findings. Experiments can be used to introduce a topic, investigate a phenomenon or allow students to consider and examine questions and curiosities. These laboratory experiences are essential as preparatory work for the IB Physics course(s).

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routing basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and a

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

Course Standards

Appropriate grade levels standards in Language Arts should be used for students in Grades 9-10 and Grades 11-12.

GENERAL INFORMATION

Course Number: 2003836

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: FL PRE-IB PHYSICS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Physics (Grades 6-12)

International Baccalaureate Physics 1 (#2003840) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 2003840

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: IB PHYSICS 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

International Baccalaureate Physics 2 (#2003845) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2003845

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: IB PHYSICS 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

International Baccalaureate Physics 3 (#2003850) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2003850

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: IB PHYSICS 3

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

International Baccalaureate MYP Physics (#2003855) 2014

- And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2003855

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: IB MYP PHYSICS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)

International Baccalaureate Design Technology (#2003860) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 2003860

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: IB DESIGN TECH 1

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

International Baccalaureate Design Technology 2 (#2003862) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 2003862

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: IB DESIGN TECH 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

International Baccalaureate Design Technology 3 (#2003864) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

QUALIFICATIONS

As well as any certification requirements listed on the course description, the following qualifications may also be acceptable for the course:

Any academic coverage (any coverage classified as an academic coverage in Rules 6A-4.0101 through 6A-4.0343, Florida Administrative Code).

GENERAL INFORMATION

Course Number: 2003864

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Physical Sciences >

Abbreviated Title: IB DESIGN TECH 3

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Nuclear Radiation Honors (#2020710) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.1:	Cite evidence used to develop and verify the scientific theory of the Big Bang (also known as the Big Bang Theory) of the origin of the universe.
SC.912.E.5.2:	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
SC.912.E.5.3:	Describe and predict how the initial mass of a star determines its evolution.
SC.912.E.5.4:	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.15.2:	Discuss the use of molecular clocks to estimate how long ago various groups of organisms diverged evolutionarily from one another.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.14:	Assess the need for adequate waste management strategies.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.

SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.3:	Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.8.5:	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.
SC.912.P.10.2:	Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.
SC.912.P.10.8:	Explain entropy's role in determining the efficiency of processes that convert energy to work.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).
SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.12:	Differentiate between chemical and nuclear reactions.
SC.912.P.10.16:	Explain the relationship between moving charges and magnetic fields, as well as changing magnetic fields and electric fields, and their application to modern technologies.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.12.5:	Apply the law of conservation of linear momentum to interactions, such as collisions between objects.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

	e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.

MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**

	Look for and express regularity in repeated reasoning.
MAFS.K12.MP.8.1:	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
	Standard Relation to Course: Supporting
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Nuclear Radiation course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2020710

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science >

SubSubject: Physical Sciences >
Abbreviated Title: NUC RADI HON
Number of Credits: One (1) credit
Course Length: Year (Y)
Course Attributes:
- Honors

Course Type: Core Academic Course
Course Level: 3
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12
Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Chemistry (Grades 6-12)
Physics (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Earth/Space Science (Grades 6-12)
Biology (Grades 6-12)

Astronomy Solar/Galactic Honors (#2020910) 2015 - 2022 (current)

Course Standards

Name	Description
SC.912.E.5.7:	Relate the history of and explain the justification for future space exploration and continuing technology development.
SC.912.E.5.8:	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.
SC.912.E.5.9:	Analyze the broad effects of space exploration on the economy and culture of Florida.
SC.912.E.5.10:	Describe and apply the coordinate system used to locate objects in the sky.
SC.912.E.5.11:	Distinguish the various methods of measuring astronomical distances and apply each in appropriate situations.
SC.912.E.6.2:	Connect surface features to surface processes that are responsible for their formation.
SC.912.E.7.7:	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.2.3:	Identify examples of pseudoscience (such as astrology, phrenology) in society.
SC.912.N.2.4:	Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.
SC.912.N.2.5:	Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.2:	Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.
SC.912.N.3.3:	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.3.5:	Describe the function of models in science, and identify the wide range of models used in science.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.1:	Differentiate among the four states of matter.
SC.912.P.8.4:	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.
SC.912.P.10.4:	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.
SC.912.P.10.9:	Describe the quantization of energy at the atomic level.
SC.912.P.10.10:	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).

SC.912.P.10.11:	Explain and compare nuclear reactions (radioactive decay, fission and fusion), the energy changes associated with them and their associated safety issues.
SC.912.P.10.18:	Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.
SC.912.P.10.19:	Explain that all objects emit and absorb electromagnetic radiation and distinguish between objects that are blackbody radiators and those that are not.
SC.912.P.10.20:	Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.
SC.912.P.10.21:	Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.
SC.912.P.10.22:	Construct ray diagrams and use thin lens and mirror equations to locate the images formed by lenses and mirrors.
SC.912.P.12.2:	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.
SC.912.P.12.3:	Interpret and apply Newton's three laws of motion.
SC.912.P.12.4:	Describe how the gravitational force between two objects depends on their masses and the distance between them.
SC.912.P.12.6:	Qualitatively apply the concept of angular momentum.
SC.912.P.12.7:	Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.
SC.912.P.12.8:	Recognize that Newton's Laws are a limiting case of Einstein's Special Theory of Relativity at speeds that are much smaller than the speed of light.
SC.912.P.12.9:	Recognize that time, length, and energy depend on the frame of reference.
LAFS.1112.RST.1.1:	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
LAFS.1112.RST.1.2:	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LAFS.1112.RST.1.3:	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
LAFS.1112.RST.2.4:	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
LAFS.1112.RST.2.5:	Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
LAFS.1112.RST.2.6:	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
LAFS.1112.RST.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LAFS.1112.RST.3.8:	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LAFS.1112.RST.3.9:	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LAFS.1112.RST.4.10:	By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex

	ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.F-IF.2.4:	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* ★
MAFS.912.F-IF.3.7:	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift.
MAFS.912.G-MG.1.2:	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★
MAFS.912.N-Q.1.1:	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★
MAFS.912.N-Q.1.3:	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw

	diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

	Standard Relation to Course: Supporting
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

While the content focus of this course is consistent with the Astronomy Solar/Galactic course, students will explore these concepts in greater depth. In general, the academic pace and rigor will be greatly increased for honors level course work. Laboratory investigations that include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course. The National Science Teachers Association (NSTA) recommends that at the high school level, all students should be in the science lab or field, collecting data every week. School laboratory investigations (labs) are defined by the National Research Council (NRC) as an experience in the laboratory, classroom, or the field that provides students with opportunities to interact directly with natural phenomena or with data collected by others using tools, materials, data collection techniques, and models (NRC, 2006, p. 3). Laboratory investigations in the high school classroom should help all students develop a growing understanding of the complexity and ambiguity of empirical work, as well as the skills to calibrate and troubleshoot equipment used to make observations. Learners should understand measurement error; and have the skills to aggregate, interpret, and present the resulting data (National Research Council, 2006, p.77; NSTA, 2007).

Special Notes:

Instructional Practices Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Literacy Standards in Science
Secondary science courses include reading standards for literacy in science and technical subjects 6-12 and writing standards for literacy in history/social studies, science, and technical subjects 6-12. The courses also include speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 2020910

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Earth/Space Sciences >
Abbreviated Title: ASTR S/G HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: Equally Rigorous Science

Educator Certifications

Science (Secondary Grades 7-12)
Physics (Grades 6-12)
Middle Grades General Science (Middle Grades 5-9)
Earth/Space Science (Grades 6-12)

Biotechnology 1 (#3027010) 2015 - And Beyond (current)

Course Standards

Name	Description
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.4:	Describe how and why organisms are hierarchically classified and based on evolutionary relationships.
SC.912.L.15.5:	Explain the reasons for changes in how organisms are classified.
SC.912.L.15.6:	Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.8:	Describe the scientific explanations of the origin of life on Earth.
SC.912.L.15.15:	Describe how mutation and genetic recombination increase genetic variation.
SC.912.L.16.1:	Use Mendel's laws of segregation and independent assortment to analyze patterns of inheritance.
SC.912.L.16.2:	Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.6:	Discuss the mechanisms for regulation of gene expression in prokaryotes and eukaryotes at transcription and translation level.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.8:	Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.
SC.912.L.16.9:	Explain how and why the genetic code is universal and is common to almost all organisms.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.16.14:	Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.
SC.912.L.16.16:	Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.
SC.912.L.16.17:	Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.
SC.912.L.17.17:	Assess the effectiveness of innovative methods of protecting the environment.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.4:	Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.
SC.912.L.18.6:	Discuss the role of anaerobic respiration in living things and in human society.
SC.912.L.18.7:	Identify the reactants, products, and basic functions of photosynthesis.
SC.912.L.18.8:	Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.
SC.912.L.18.10:	Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
SC.912.L.18.12:	Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.
SC.912.N.1.1:	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines). 3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,**

	8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.2:	Describe and explain what characterizes science and its methods.
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.2.1:	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).
SC.912.N.2.2:	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.
SC.912.N.3.1:	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.
SC.912.N.3.4:	Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.8.12:	Describe the properties of the carbon atom that make the diversity of carbon compounds possible.
SC.912.P.10.15:	Investigate and explain the relationships among current, voltage, resistance, and power.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Credits: 0.5 Science / 0.5 CTE

Notes: Laboratory investigations which include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course.

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science >

Course Number: 3027010

SubSubject: Integrated Sciences >
Section: Career and Technical Education » **Cluster:** Manufacturing » **Career Path:** Secondary Programs »**Program:** 8736000 » **Program Version:** Industrial Biotechnology »

Abbreviated Title: BIOTECH 1

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Biotechnology 2 (#3027020) 2015 - And Beyond (current)

Course Standards

Name	Description
SC.912.E.6.6:	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.
SC.912.E.7.1:	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.
SC.912.L.14.1:	Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.
SC.912.L.14.2:	Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).
SC.912.L.14.3:	Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.
SC.912.L.14.4:	Compare and contrast structure and function of various types of microscopes.
SC.912.L.14.6:	Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.
SC.912.L.14.7:	Relate the structure of each of the major plant organs and tissues to physiological processes.
SC.912.L.14.26:	Identify the major parts of the brain on diagrams or models.
SC.912.L.14.36:	Describe the factors affecting blood flow through the cardiovascular system.
SC.912.L.14.37:	Explain the components of an electrocardiogram.
SC.912.L.14.52:	Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics.
SC.912.L.15.1:	Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
SC.912.L.15.10:	Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.
SC.912.L.15.13:	Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.
SC.912.L.15.14:	Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow.
SC.912.L.16.3:	Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information.
SC.912.L.16.4:	Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.
SC.912.L.16.5:	Explain the basic processes of transcription and translation, and how they result in the expression of genes.
SC.912.L.16.6:	Discuss the mechanisms for regulation of gene expression in prokaryotes and eukaryotes at transcription and translation level.
SC.912.L.16.7:	Describe how viruses and bacteria transfer genetic material between cells and the role of this process in biotechnology.
SC.912.L.16.10:	Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.
SC.912.L.16.11:	Discuss the technologies associated with forensic medicine and DNA identification, including restriction fragment length polymorphism (RFLP) analysis.
SC.912.L.16.12:	Describe how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, polymerase chain reaction, ligation, and transformation) is used to construct recombinant DNA molecules (DNA cloning).
SC.912.L.16.13:	Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy.
SC.912.L.17.2:	Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.
SC.912.L.17.3:	Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.
SC.912.L.17.4:	Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
SC.912.L.17.5:	Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.
SC.912.L.17.8:	Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.
SC.912.L.17.9:	Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.
SC.912.L.17.10:	Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.
SC.912.L.17.11:	Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
SC.912.L.17.12:	Discuss the political, social, and environmental consequences of sustainable use of land.
SC.912.L.17.13:	Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
SC.912.L.17.14:	Assess the need for adequate waste management strategies.
SC.912.L.17.15:	Discuss the effects of technology on environmental quality.
SC.912.L.17.16:	Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.
SC.912.L.17.20:	Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
SC.912.L.18.1:	Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.
SC.912.L.18.6:	Discuss the role of anaerobic respiration in living things and in human society.
SC.912.L.18.9:	Explain the interrelated nature of photosynthesis and cellular respiration.
SC.912.L.18.11:	Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.
	Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: 1. **Pose questions about the natural world,** (Articulate the purpose of the investigation and identify the relevant scientific concepts). 2. **Conduct systematic observations,** (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable. Employ appropriate methods for accurate and consistent observations; conduct and record measurements at appropriate levels of precision. Follow safety guidelines).

SC.912.N.1.1:	3. **Examine books and other sources of information to see what is already known,** 4. **Review what is known in light of empirical evidence,** (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models). 5. **Plan investigations,** (Design and evaluate a scientific investigation). 6. **Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs),** (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage). 7. **Pose answers, explanations, or descriptions of events,** 8. **Generate explanations that explicate or describe natural phenomena (inferences),** 9. **Use appropriate evidence and reasoning to justify these explanations to others,** 10. **Communicate results of scientific investigations, and** 11. **Evaluate the merits of the explanations produced by others.**
SC.912.N.1.3:	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.
SC.912.N.1.4:	Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
SC.912.N.1.5:	Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6:	Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
SC.912.N.1.7:	Recognize the role of creativity in constructing scientific questions, methods and explanations.
SC.912.N.4.1:	Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
SC.912.N.4.2:	Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.
SC.912.P.12.12:	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.

General Course Information and Notes

GENERAL NOTES

Credits: 0.5 Science / 0.5 CTE

Notes: Laboratory investigations which include the use of scientific inquiry, research, measurement, problem solving, laboratory apparatus and technologies, experimental procedures, and safety procedures are an integral part of this course.

Special Notes:
Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
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3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

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Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 3027020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences > **Section:** Career and Technical Education » **Cluster:** Manufacturing » **Career Path:** Secondary Programs »**Program:** 8736000 » **Program Version:** Industrial Biotechnology »

Abbreviated Title: BIOTECH 2

Course Length: Year (Y)

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

International Baccalaureate Food Science and Technology 1 (#3028300) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 3028300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: IB FOOD SCI & TECH 1

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Family and Consumer Science (Grades 6-12)
School Food Service (Career & Technical)
School Food Service (District-issued Employment Certificate)
Home Economics Occupations (Career & Technical)
Home Economics Occupations (District-issued Employment Certificate)
Culinary Operations (Career & Technical)
Culinary Operations (District-issued Employment Certificate)

International Baccalaureate Food Science and Technology 2 (#3028310) 2020 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 3028310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Science > **SubSubject:** Integrated Sciences >

Abbreviated Title: IB FOOD SCI & TECH 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Science (Secondary Grades 7-12)
Family and Consumer Science (Grades 6-12)
School Food Service (Career & Technical)
School Food Service (District-issued Employment Certificate)
Home Economics Occupations (Career & Technical)
Home Economics Occupations (District-issued Employment Certificate)
Culinary Operations (Career & Technical)
Culinary Operations (District-issued Employment Certificate)

Science - Grade K (#5020010) 2015 - 2022 (current)

Course Standards

Name	Description
SC.K.E.5.1:	Explore the Law of Gravity by investigating how objects are pulled toward the ground unless something holds them up.
SC.K.E.5.2:	Recognize the repeating pattern of day and night.
SC.K.E.5.3:	Recognize that the Sun can only be seen in the daytime.
SC.K.E.5.4:	Observe that sometimes the Moon can be seen at night and sometimes during the day.
SC.K.E.5.5:	Observe that things can be big and things can be small as seen from Earth.
SC.K.E.5.6:	Observe that some objects are far away and some are nearby as seen from Earth.
SC.K.L.14.1:	Recognize the five senses and related body parts.
SC.K.L.14.2:	Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have in real life.
SC.K.L.14.3:	Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do.
SC.K.N.1.1:	Collaborate with a partner to collect information.
SC.K.N.1.2:	Make observations of the natural world and know that they are descriptors collected using the five senses.
SC.K.N.1.3:	Keep records as appropriate -- such as pictorial records -- of investigations conducted.
SC.K.N.1.4:	Observe and create a visual representation of an object which includes its major features.
SC.K.N.1.5:	Recognize that learning can come from careful observation.
SC.K.P.8.1:	Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light) and texture.
SC.K.P.9.1:	Recognize that the shape of materials such as paper and clay can be changed by cutting, tearing, crumpling, smashing, or rolling.
SC.K.P.10.1:	Observe that things that make sound vibrate.
SC.K.P.12.1:	Investigate that things move in different ways, such as fast, slow, etc.
SC.K.P.13.1:	Observe that a push or a pull can change the way an object is moving.
MAFS.K.MD.1.2:	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*
MAFS.K.MD.2.3:	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and

	formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
LAFS.K.RI.1.1:	With prompting and support, ask and answer questions about key details in a text.
LAFS.K.RI.2.4:	With prompting and support, ask and answer questions about unknown words in a text.
LAFS.K.RI.4.10:	Actively engage in group reading activities with purpose and understanding.
LAFS.K.SL.1.1:	Participate in collaborative conversations with diverse partners about *kindergarten topics* and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges.
LAFS.K.W.3.8:	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.K.C.1.5:	Recognize there are body parts inside and outside of the body. **Clarifications:** Brain, muscles, and skin.

General Course Information and Notes

GENERAL NOTES

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 5020010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: SCIENCE GRADE K

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): K

Educator Certifications

Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)
Early Childhood Education (Early Childhood)
Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

Science Grade One (#5020020) 2015 - 2022 (current)

Course Standards

Name	Description
SC.1.E.5.1:	Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.
SC.1.E.5.2:	Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.
SC.1.E.5.3:	Investigate how magnifiers make things appear bigger and help people see things they could not see without them.
SC.1.E.5.4:	Identify the beneficial and harmful properties of the Sun.
SC.1.E.6.1:	Recognize that water, rocks, soil, and living organisms are found on Earth's surface.
SC.1.E.6.2:	Describe the need for water and how to be safe around water.
SC.1.E.6.3:	Recognize that some things in the world around us happen fast and some happen slowly.
SC.1.L.14.1:	Make observations of living things and their environment using the five senses.
SC.1.L.14.2:	Identify the major parts of plants, including stem, roots, leaves, and flowers.
SC.1.L.14.3:	Differentiate between living and nonliving things.
SC.1.L.16.1:	Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.
SC.1.L.17.1:	Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.
SC.1.N.1.1:	Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.
SC.1.N.1.2:	Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.
SC.1.N.1.3:	Keep records as appropriate - such as pictorial and written records - of investigations conducted.
SC.1.N.1.4:	Ask "how do you know?" in appropriate situations.
SC.1.P.8.1:	Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float.
SC.1.P.12.1:	Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.
SC.1.P.13.1:	Demonstrate that the way to change the motion of an object is by applying a push or a pull.
MAFS.1.MD.1.a:	Understand how to use a ruler to measure length to the nearest inch. a. Recognize that the ruler is a tool that can be used to measure the attribute of length. b. Understand the importance of the zero point and end point and that the length measure is the span between two points. c. Recognize that the units marked on a ruler have equal length intervals and fit together with no gaps or overlaps. These equal interval distances can be counted to determine the overall length of an object.
MAFS.1.MD.3.4:	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read

	the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
LAFS.1.RI.1.1:	Ask and answer questions about key details in a text.
LAFS.1.RI.2.4:	Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
LAFS.1.RI.4.10:	With prompting and support, read informational texts appropriately complex for grade 1.
LAFS.1.SL.1.1:	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion.
LAFS.1.W.3.8:	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.1.C.1.5:	Identify the correct names of human body parts. **Clarifications:** Stomach, intestines, heart, lungs, skin, muscles, and bones.

General Course Information and Notes

VERSION DESCRIPTION

Instructional Practices

Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 5020020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: SCIENCE GRADE ONE

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 1

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Science (Elementary Grades 1-6)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)

Science - Grade Two (#5020030) 2015 - 2022 (current)

Course Standards

Name	Description
SC.2.E.6.1:	Recognize that Earth is made up of rocks. Rocks come in many sizes and shapes.
SC.2.E.6.2:	Describe how small pieces of rock and dead plant and animal parts can be the basis of soil and explain the process by which soil is formed.
SC.2.E.6.3:	Classify soil types based on color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants.
SC.2.E.7.1:	Compare and describe changing patterns in nature that repeat themselves, such as weather conditions including temperature and precipitation, day to day and season to season.
SC.2.E.7.2:	Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, and air.
SC.2.E.7.3:	Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear (evaporate).
SC.2.E.7.4:	Investigate that air is all around us and that moving air is wind.
SC.2.E.7.5:	State the importance of preparing for severe weather, lightning, and other weather related events.
SC.2.L.14.1:	Distinguish human body parts (brain, heart, lungs, stomach, muscles, and skeleton) and their basic functions.
SC.2.L.16.1:	Observe and describe major stages in the life cycles of plants and animals, including beans and butterflies.
SC.2.L.17.1:	Compare and contrast the basic needs that all living things, including humans, have for survival.
SC.2.L.17.2:	Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.
SC.2.N.1.1:	Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.
SC.2.N.1.2:	Compare the observations made by different groups using the same tools.
SC.2.N.1.3:	Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.
SC.2.N.1.4:	Explain how particular scientific investigations should yield similar conclusions when repeated.
SC.2.N.1.5:	Distinguish between empirical observation (what you see, hear, feel, smell, or taste) and ideas or inferences (what you think).
SC.2.N.1.6:	Explain how scientists alone or in groups are always investigating new ways to solve problems.
SC.2.P.8.1:	Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.
SC.2.P.8.2:	Identify objects and materials as solid, liquid, or gas.
SC.2.P.8.3:	Recognize that solids have a definite shape and that liquids and gases take the shape of their container.
SC.2.P.8.4:	Observe and describe water in its solid, liquid, and gaseous states.
SC.2.P.8.5:	Measure and compare temperatures taken every day at the same time.
SC.2.P.8.6:	Measure and compare the volume of liquids using containers of various shapes and sizes.
SC.2.P.9.1:	Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration.
SC.2.P.10.1:	Discuss that people use electricity or other forms of energy to cook their food, cool or warm their homes, and power their cars.
SC.2.P.13.1:	Investigate the effect of applying various pushes and pulls on different objects.
SC.2.P.13.2:	Demonstrate that magnets can be used to make some things move without touching them.
SC.2.P.13.3:	Recognize that objects are pulled toward the ground unless something holds them up.
SC.2.P.13.4:	Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.
MAFS.2.MD.4.9:	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
MAFS.2.MD.4.10:	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
	Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments.

MAFS.K12.MP.3.1:	They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	**Look for and express regularity in repeated reasoning.** Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
LAFS.2.RI.1.3:	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
LAFS.2.RI.2.4:	Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.
LAFS.2.RI.4.10:	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
LAFS.2.SL.1.1:	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by linking their comments to the remarks of others. c. Ask for clarification and further explanation as needed about the topics and texts under discussion.
LAFS.2.W.3.7:	Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
LAFS.2.W.3.8:	Recall information from experiences or gather information from provided sources to answer a question.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
	Name healthy options to health-related issues or problems.

HE.2.B.5.2:	**Clarifications:** Safety equipment, peer cooperation, and communication.
	Recognize the locations and functions of major human organs.
HE.2.C.1.5:	**Clarifications:** The functions of the heart, lungs, and muscles.

General Course Information and Notes

GENERAL NOTES

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 5020030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: SCIENCE GRADE TWO

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 2

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Science (Elementary Grades 1-6)
Primary Education (K-3)
Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Grades K-6)

Science - Grade Three (#5020040) 2015 - 2022 (current)

Course Standards

Name	Description
SC.3.E.5.1:	Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.
SC.3.E.5.2:	Identify the Sun as a star that emits energy; some of it in the form of light.
SC.3.E.5.3:	Recognize that the Sun appears large and bright because it is the closest star to Earth.
SC.3.E.5.4:	Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.
SC.3.E.5.5:	Investigate that the number of stars that can be seen through telescopes is dramatically greater than those seen by the unaided eye.
SC.3.E.6.1:	Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.
SC.3.L.14.1:	Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.
SC.3.L.14.2:	Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.
SC.3.L.15.1:	Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.
SC.3.L.15.2:	Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics.
SC.3.L.17.1:	Describe how animals and plants respond to changing seasons.
SC.3.L.17.2:	Recognize that plants use energy from the Sun, air, and water to make their own food.
SC.3.N.1.1:	Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.
SC.3.N.1.2:	Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.
SC.3.N.1.3:	Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted.
SC.3.N.1.4:	Recognize the importance of communication among scientists.
SC.3.N.1.5:	Recognize that scientists question, discuss, and check each other's evidence and explanations.
SC.3.N.1.6:	Infer based on observation.
SC.3.N.1.7:	Explain that empirical evidence is information, such as observations or measurements, that is used to help validate explanations of natural phenomena.
SC.3.N.3.1:	Recognize that words in science can have different or more specific meanings than their use in everyday language; for example, energy, cell, heat/cold, and evidence.
SC.3.N.3.2:	Recognize that scientists use models to help understand and explain how things work.
SC.3.N.3.3:	Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.
SC.3.P.8.1:	Measure and compare temperatures of various samples of solids and liquids.
SC.3.P.8.2:	Measure and compare the mass and volume of solids and liquids.
SC.3.P.8.3:	Compare materials and objects according to properties such as size, shape, color, texture, and hardness.
SC.3.P.9.1:	Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.
SC.3.P.10.1:	Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.
SC.3.P.10.2:	Recognize that energy has the ability to cause motion or create change.
SC.3.P.10.3:	Demonstrate that light travels in a straight line until it strikes an object or travels from one medium to another.
SC.3.P.10.4:	Demonstrate that light can be reflected, refracted, and absorbed.
SC.3.P.11.1:	Investigate, observe, and explain that things that give off light often also give off heat.
SC.3.P.11.2:	Investigate, observe, and explain that heat is produced when one object rubs against another, such as rubbing one's hands together.
MAFS.3.MD.1.2:	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Continuous measurement quantities such as liquid volume, mass, and so on are an important context for fraction arithmetic (cf. 4.NF.2.4c, 5.NF.2.7c, 5.NF.2.3). In grade 3, students begin to get a feel for continuous measurement quantities and solve whole- number problems involving such quantities.
MAFS.3.MD.2.4:	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**

	Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	
	Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	
	Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	
	Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	
	Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	
	Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	
	Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
MAFS.K12.MP.8.1:	
LAFS.3.RI.1.3:	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
LAFS.3.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.

LAFS.3.RI.4.10:	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.
LAFS.3.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 *topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d. Explain their own ideas and understanding in light of the discussion.
LAFS.3.W.3.8:	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.3.C.1.4:	Recognize common childhood health conditions. **Clarifications:** Asthma, diabetes, food allergies, dental cavities, and colds.
HE.3.C.1.5:	Recognize that body parts and organs work together to form human body systems. **Clarifications:** Circulatory system, digestive system, nervous system, reproductive system, and other body systems.

General Course Information and Notes

GENERAL NOTES

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 5020040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >
Abbreviated Title: SCIENCE GRADE THREE
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Type: Core Academic Course
Course Status: Draft - Course Pending Approval

Grade Level(s): 3

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Primary Education (K-3)
Science (Elementary Grades 1-6)
Prekindergarten/Primary Education (Age 3 through Grade 3)
Elementary Education (Grades K-6)

Science - Grade Four (#5020050) 2015 - 2022 (current)

Course Standards

Name	Description
SC.4.E.5.1:	Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons.
SC.4.E.5.2:	Describe the changes in the observable shape of the moon over the course of about a month.
SC.4.E.5.3:	Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.
SC.4.E.5.4:	Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.
SC.4.E.5.5:	Investigate and report the effects of space research and exploration on the economy and culture of Florida.
SC.4.E.6.1:	Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure).
SC.4.E.6.2:	Identify the physical properties of common earth-forming minerals, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks.
SC.4.E.6.3:	Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.
SC.4.E.6.4:	Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).
SC.4.E.6.5:	Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things.
SC.4.E.6.6:	Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy).
SC.4.L.16.1:	Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination.
SC.4.L.16.2:	Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.
SC.4.L.16.3:	Recognize that animal behaviors may be shaped by heredity and learning.
SC.4.L.16.4:	Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants.
SC.4.L.17.1:	Compare the seasonal changes in Florida plants and animals to those in other regions of the country.
SC.4.L.17.2:	Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.
SC.4.L.17.3:	Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.
SC.4.L.17.4:	Recognize ways plants and animals, including humans, can impact the environment.
SC.4.N.1.1:	Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.
SC.4.N.1.2:	Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.
SC.4.N.1.3:	Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence.
SC.4.N.1.4:	Attempt reasonable answers to scientific questions and cite evidence in support.
SC.4.N.1.5:	Compare the methods and results of investigations done by other classmates.
SC.4.N.1.6:	Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.
SC.4.N.1.7:	Recognize and explain that scientists base their explanations on evidence.
SC.4.N.1.8:	Recognize that science involves creativity in designing experiments.
SC.4.N.2.1:	Explain that science focuses solely on the natural world.
SC.4.N.3.1:	Explain that models can be three dimensional, two dimensional, an explanation in your mind, or a computer model.
SC.4.P.8.1:	Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets.
SC.4.P.8.2:	Identify properties and common uses of water in each of its states.
SC.4.P.8.3:	Explore the Law of Conservation of Mass by demonstrating that the mass of a whole object is always the same as the sum of the masses of its parts.
SC.4.P.8.4:	Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets.
SC.4.P.9.1:	Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking.
SC.4.P.10.1:	Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.
SC.4.P.10.2:	Investigate and describe that energy has the ability to cause motion or create change.
SC.4.P.10.3:	Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.
SC.4.P.10.4:	Describe how moving water and air are sources of energy and can be used to move things.
SC.4.P.11.1:	Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature.
SC.4.P.11.2:	Identify common materials that conduct heat well or poorly.
SC.4.P.12.1:	Recognize that an object in motion always changes its position and may change its direction.
SC.4.P.12.2:	Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.
MAFS.4.MD.1.1:	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
MAFS.4.MD.2.4:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

	Make sense of problems and persevere in solving them.
MAFS.K12.MP.1.1:	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Standard Relation to Course: Supporting
	Reason abstractly and quantitatively.
MAFS.K12.MP.2.1:	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
	Standard Relation to Course: Supporting
	Construct viable arguments and critique the reasoning of others.
MAFS.K12.MP.3.1:	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Standard Relation to Course: Supporting
	Model with mathematics.
MAFS.K12.MP.4.1:	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
	Standard Relation to Course: Supporting
	Use appropriate tools strategically.
MAFS.K12.MP.5.1:	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
	Standard Relation to Course: Supporting
	Attend to precision.
MAFS.K12.MP.6.1:	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Standard Relation to Course: Supporting
	Look for and make use of structure.
MAFS.K12.MP.7.1:	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.
	Standard Relation to Course: Supporting
	Look for and express regularity in repeated reasoning.

MAFS.K12.MP.8.1:	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. **Standard Relation to Course: Supporting**
LAFS.4.RI.1.3:	Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
LAFS.4.RI.2.4:	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.
LAFS.4.RI.4.10:	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade *4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
LAFS.4.W.3.8:	Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.
LAFS.4.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 4 Reading standards to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions]."). b. Apply grade 4 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.4.C.1.5:	Identify the human body parts and organs that work together to form healthy body systems. **Clarifications:** Muscular and skeletal systems, circulatory and respiratory systems, and endocrine and reproductive systems.

General Course Information and Notes

GENERAL NOTES

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

Additional content addressed on the Grade 4 NAEP Science assessment includes:

- Earth materials have properties that make them useful in solving human problems and enhancing the quality of life. (SC.6.E.6.2)
- The Sun warms the land, air, and water and helps plants grow. (SC.3.E.6.1;SC.3.L.17.2)
- Weather changes from day to day and during the seasons. (SC.2.E.7.1)
- Scientists use tools for observing, recording, and predicting weather changes. (SC.5.E.7.3; SC.5.E.7.4)
- Plants and animals have life cycles. (SC.2.L.16.1)
- Environment changes impact organism survival and reproduction. (SC.5.L.15.1)

- Organisms need food, water, air, and shelter. (SC.1.L.17.1)
- Some objects are composed of a single substance; others are composed of more than one substance. (SC.5.P.8.3)
- Heat (thermal energy) results when substances burn, materials rub against each other, and electricity flows though wires. (SC.3.P.11.2)
- Metals are conductors of heat and electricity. (SC.3.P.11.2)
- Increasing the temperature of any substance requires the addition of energy.
- Electricity flowing through an electrical circuit produces magnetic effects in the wires. Energy is transferred to the surroundings as light, sound, and heat (thermal energy). (SC.5.P.11.1; SC.5.P.11.2)

The NAEP frameworks for Science may be accessed at nagb.org/publications/frameworks/science-09.pdf

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 5020050

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: SCIENCE GRADE FOUR

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 4

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Science (Elementary Grades 1-6)
Elementary Education (Grades K-6)

Science - Grade Five (#5020060) 2015 - 2022 (current)

Course Standards

Name	Description
SC.5.E.5.1:	Recognize that a galaxy consists of gas, dust, and many stars, including any objects orbiting the stars. Identify our home galaxy as the Milky Way.
SC.5.E.5.2:	Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets.
SC.5.E.5.3:	Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it.
SC.5.E.7.1:	Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to another.
SC.5.E.7.2:	Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes.
SC.5.E.7.3:	Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time.
SC.5.E.7.4:	Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.
SC.5.E.7.5:	Recognize that some of the weather-related differences, such as temperature and humidity, are found among different environments, such as swamps, deserts, and mountains.
SC.5.E.7.6:	Describe characteristics (temperature and precipitation) of different climate zones as they relate to latitude, elevation, and proximity to bodies of water.
SC.5.E.7.7:	Design a family preparedness plan for natural disasters and identify the reasons for having such a plan.
SC.5.L.14.1:	Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs.
SC.5.L.14.2:	Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support.
SC.5.L.15.1:	Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.
SC.5.L.17.1:	Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.
SC.5.N.1.1:	Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.5.N.1.2:	Explain the difference between an experiment and other types of scientific investigation.
SC.5.N.1.3:	Recognize and explain the need for repeated experimental trials.
SC.5.N.1.4:	Identify a control group and explain its importance in an experiment.
SC.5.N.1.5:	Recognize and explain that authentic scientific investigation frequently does not parallel the steps of "the scientific method."
SC.5.N.1.6:	Recognize and explain the difference between personal opinion/interpretation and verified observation.
SC.5.N.2.1:	Recognize and explain that science is grounded in empirical observations that are testable; explanation must always be linked with evidence.
SC.5.N.2.2:	Recognize and explain that when scientific investigations are carried out, the evidence produced by those investigations should be replicable by others.
SC.5.P.8.1:	Compare and contrast the basic properties of solids, liquids, and gases, such as mass, volume, color, texture, and temperature.
SC.5.P.8.2:	Investigate and identify materials that will dissolve in water and those that will not and identify the conditions that will speed up or slow down the dissolving process.
SC.5.P.8.3:	Demonstrate and explain that mixtures of solids can be separated based on observable properties of their parts such as particle size, shape, color, and magnetic attraction.
SC.5.P.8.4:	Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification.
SC.5.P.9.1:	Investigate and describe that many physical and chemical changes are affected by temperature.
SC.5.P.10.1:	Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.
SC.5.P.10.2:	Investigate and explain that energy has the ability to cause motion or create change.
SC.5.P.10.3:	Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects.
SC.5.P.10.4:	Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion.
SC.5.P.11.1:	Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop).
SC.5.P.11.2:	Identify and classify materials that conduct electricity and materials that do not.
SC.5.P.13.1:	Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.
SC.5.P.13.2:	Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.
SC.5.P.13.3:	Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion.
SC.5.P.13.4:	Investigate and explain that when a force is applied to an object but it does not move, it is because another opposing force is being applied by something in the environment so that the forces are balanced.
MAFS.5.G.1.1:	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
MAFS.5.MD.2.2:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*
	Make sense of problems and persevere in solving them.

MAFS.K12.MP.1.1:	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.2.1:	**Reason abstractly and quantitatively**. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.4.1:	**Model with mathematics.** Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. **Standard Relation to Course: Supporting**
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
MAFS.K12.MP.7.1:	**Look for and make use of structure.** Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. **Standard Relation to Course: Supporting**
	Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary

MAFS.K12.MP.8.1:	students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.
	Standard Relation to Course: Supporting
LAFS.5.RI.1.3:	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
LAFS.5.RI.2.4:	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.
LAFS.5.RI.4.10:	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.
LAFS.5.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
LAFS.5.W.3.8:	Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
LAFS.5.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 5 Reading standards to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]"). b. Apply grade 5 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]").
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.5.C.1.5:	Explain how human body parts and organs work together in healthy body systems, including the endocrine and reproductive systems. **Clarifications:** Digestive and circulatory systems receiving and distributing nutrients to provide energy, endocrine glands influencing the reproductive system and respiratory system providing oxygen to other body systems.

General Course Information and Notes

GENERAL NOTES

Special Notes:

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

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2. Making close reading and rereading of texts central to lessons.
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- Engaging in argument from evidence.
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English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf

GENERAL INFORMATION

Course Number: 5020060

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: SCIENCE GRADE FIVE

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 5

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Middle Grades General Science (Middle Grades 5-9)
Science (Elementary Grades 1-6)
Elementary Education (Grades K-6)

STEM Lab Kindergarten (#5020070) 2016 - 2022 (current)

Course Standards

Name	Description
SC.K.E.5.1:	Explore the Law of Gravity by investigating how objects are pulled toward the ground unless something holds them up.
SC.K.E.5.2:	Recognize the repeating pattern of day and night.
SC.K.E.5.3:	Recognize that the Sun can only be seen in the daytime.
SC.K.E.5.4:	Observe that sometimes the Moon can be seen at night and sometimes during the day.
SC.K.E.5.5:	Observe that things can be big and things can be small as seen from Earth.
SC.K.E.5.6:	Observe that some objects are far away and some are nearby as seen from Earth.
SC.K.N.1.1:	Collaborate with a partner to collect information.
SC.K.N.1.2:	Make observations of the natural world and know that they are descriptors collected using the five senses.
SC.K.N.1.3:	Keep records as appropriate -- such as pictorial records -- of investigations conducted.
SC.K.N.1.4:	Observe and create a visual representation of an object which includes its major features.
SC.K.N.1.5:	Recognize that learning can come from careful observation.
SC.K.P.8.1:	Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light) and texture.
SC.K.P.9.1:	Recognize that the shape of materials such as paper and clay can be changed by cutting, tearing, crumpling, smashing, or rolling.
SC.K.P.10.1:	Observe that things that make sound vibrate.
SC.K.P.12.1:	Investigate that things move in different ways, such as fast, slow, etc.
SC.K.P.13.1:	Observe that a push or a pull can change the way an object is moving.
SC.K2.CS-CC.1.3:	Collaborate and cooperate with peers, teachers, and others using technology to solve problems.
SC.K2.CS-CP.1.1:	Identify different kinds of data (e.g., text, charts, graphs, numbers, pictures, audio, video, and collections of objects).
SC.K2.CS-CP.2.2:	Perform a simple task (e.g., making a sandwich and brushing teeth) breaking it into small steps.
SC.K2.CS-CP.3.1:	Create developmentally appropriate multimedia products with support from teachers, family members, or student partners.
SC.K2.CS-CS.2.2:	Solve age-appropriate problems (e.g., puzzles and logical thinking programs) with or without technology (i.e., computational thinking).
SC.K2.CS-CS.2.5:	Create a simple algorithm, individually and collaboratively, without using computers to complete the task (e.g., making a sandwich, getting ready for school).
SC.K2.CS-CS.3.1:	Create a digital artifact (independently and collaboratively) that clearly expresses thoughts and ideas.
SC.K2.CS-CS.4.1:	Recognize different kinds of computing devices in the classroom and other places (e.g., laptops, tablets, smart phones, desktops, printers).
SC.K2.CS-PC.2.2:	Communicate about technology using developmentally appropriate terminology.
MAFS.K.CC.1.1:	Count to 100 by ones and by tens.
MAFS.K.CC.1.2:	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
MAFS.K.CC.1.3:	Read and write numerals from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).
MAFS.K.CC.2.4:	Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.
MAFS.K.CC.2.5:	Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
MAFS.K.G.1.1:	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind, and next to.*
MAFS.K.G.1.2:	Correctly name shapes regardless of their orientations or overall size.
MAFS.K.G.1.3:	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
MAFS.K.G.2.4:	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
MAFS.K.G.2.5:	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
MAFS.K.G.2.6:	Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*
MAFS.K.MD.1.1:	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
MAFS.K.MD.1.2:	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*
MAFS.K.MD.1.a:	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*
MAFS.K.MD.2.3:	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

VERSION DESCRIPTION

Special Notes:

This course offers students an opportunity to deepen science, mathematics, engineering, and technology skills. The primary content focus will be to expand knowledge of current grade level standards in mathematics and science by applying that content in a real world, hands-on situation involving engineering and technology. For kindergarten, themes will focus on the investigation of number sense, measurement, geometry, earth science, and physical science concepts.

Students will participate in various hands-on STEM activities in this supplemental course to assist in the mastery of current grade level mathematics and science standards.

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1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
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- Constructing explanations (for science) and designing solutions (for engineering).
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Teachers are required to provide listening, speaking, reading and writing instruction that allows English Language Learners (ELL) to communicate information, ideas and concepts for academic success in science and math. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 5020070

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: STEM LAB K

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Status: Draft - Course Pending Approval

Educator Certifications

Elementary Education (Grades K-6)
Prekindergarten/Primary Education (Age 3 through Grade 3)

STEM Lab Grade 1 (#5020080) 2016 - 2022 (current)

Course Standards

Name	Description
SC.1.E.5.1:	Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.
SC.1.E.5.2:	Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.
SC.1.E.5.3:	Investigate how magnifiers make things appear bigger and help people see things they could not see without them.
SC.1.L.14.1:	Make observations of living things and their environment using the five senses.
SC.1.L.14.2:	Identify the major parts of plants, including stem, roots, leaves, and flowers.
SC.1.L.14.3:	Differentiate between living and nonliving things.
SC.1.L.16.1:	Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.
SC.1.L.17.1:	Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.
SC.1.N.1.1:	Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.
SC.1.N.1.2:	Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.
SC.1.N.1.3:	Keep records as appropriate - such as pictorial and written records - of investigations conducted.
SC.1.N.1.4:	Ask "how do you know?" in appropriate situations.
SC.1.P.8.1:	Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float.
SC.1.P.12.1:	Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.
SC.1.P.13.1:	Demonstrate that the way to change the motion of an object is by applying a push or a pull.
SC.K2.CS-CC.1.1:	Identify a variety of digital tools used for communication and collaboration (e.g., online library catalogs and databases).
SC.K2.CS-CC.1.3:	Collaborate and cooperate with peers, teachers, and others using technology to solve problems.
SC.K2.CS-CP.1.1:	Identify different kinds of data (e.g., text, charts, graphs, numbers, pictures, audio, video, and collections of objects).
SC.K2.CS-CP.1.3:	Propose a solution to a problem or question based on an analysis of the data and critical thinking, individually and collaboratively.
SC.K2.CS-CP.1.4:	Create data visualizations (e.g., charts and infographics), individually and collaboratively.
SC.K2.CS-CP.2.2:	Perform a simple task (e.g., making a sandwich and brushing teeth) breaking it into small steps.
SC.K2.CS-CP.3.1:	Create developmentally appropriate multimedia products with support from teachers, family members, or student partners.
SC.K2.CS-CP.3.2:	Prepare a simple presentation of digital products and applications.
SC.K2.CS-CS.2.2:	Solve age-appropriate problems (e.g., puzzles and logical thinking programs) with or without technology (i.e., computational thinking).
SC.K2.CS-CS.2.5:	Create a simple algorithm, individually and collaboratively, without using computers to complete the task (e.g., making a sandwich, getting ready for school).
SC.K2.CS-CS.2.6:	Illustrate thoughts, ideas, and stories in a step-by-step manner using writing tools, digital cameras, and drawing tools.
SC.K2.CS-CS.2.8:	Gather and organize information using concept-mapping tools.
SC.K2.CS-CS.3.2:	Create, review, and revise artifacts that include text, images, and audio using digital tools.
SC.K2.CS-CS.4.2:	Recognize and operate different types of computers, applications and peripherals (e.g., use input/output devices such as a mouse, keyboard, or touch screen; find, navigate, launch a program).
MAFS.1.G.1.1:	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
MAFS.1.G.1.2:	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
MAFS.1.MD.1.1:	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
MAFS.1.MD.1.a:	Understand how to use a ruler to measure length to the nearest inch. a. Recognize that the ruler is a tool that can be used to measure the attribute of length. b. Understand the importance of the zero point and end point and that the length measure is the span between two points. c. Recognize that the units marked on a ruler have equal length intervals and fit together with no gaps or overlaps. These equal interval distances can be counted to determine the overall length of an object.
MAFS.1.MD.3.4:	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
MAFS.1.NBT.2.2:	Understand that the two digits of a two-digit number represent amounts of tens and ones. a. 10 can be thought of as a bundle of ten ones — called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). d. Decompose two-digit numbers in multiple ways (e.g., 64 can be decomposed into 6 tens and 4 ones or into 5 tens and 14 ones).
MAFS.1.NBT.2.3:	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

VERSION DESCRIPTION

This course offers students an opportunity to deepen science, mathematics, engineering, and technology skills. The primary content focus will be to expand knowledge of current grade level standards in mathematics and science by applying that content in a real world, hands-on situation involving engineering and technology. For first grade, themes will focus on the investigation of number sense, measurement, geometry, earth science, life science, and physical science concepts.

Students will participate in various hands-on STEM activities in this supplemental course to assist in the mastery of current grade level mathematics and science standards.

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development (ELD) Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English Language Learners (ELL) to communicate information, ideas and concepts for academic success in science and math. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 5020080

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: STEM Lab 1

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Status: Draft - Course Pending Approval

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

STEM Lab Grade 2 (#5020090) 2016 - 2022 (current)

Course Standards

Name	Description
SC.2.E.6.1:	Recognize that Earth is made up of rocks. Rocks come in many sizes and shapes.
SC.2.E.6.2:	Describe how small pieces of rock and dead plant and animal parts can be the basis of soil and explain the process by which soil is formed.
SC.2.E.6.3:	Classify soil types based on color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants.
SC.2.E.7.1:	Compare and describe changing patterns in nature that repeat themselves, such as weather conditions including temperature and precipitation, day to day and season to season.
SC.2.E.7.2:	Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, and air.
SC.2.E.7.3:	Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear (evaporate).
SC.2.E.7.4:	Investigate that air is all around us and that moving air is wind.
SC.2.N.1.1:	Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.
SC.2.N.1.2:	Compare the observations made by different groups using the same tools.
SC.2.N.1.3:	Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.
SC.2.N.1.4:	Explain how particular scientific investigations should yield similar conclusions when repeated.
SC.2.N.1.5:	Distinguish between empirical observation (what you see, hear, feel, smell, or taste) and ideas or inferences (what you think).
SC.2.N.1.6:	Explain how scientists alone or in groups are always investigating new ways to solve problems.
SC.2.P.8.1:	Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.
SC.2.P.8.2:	Identify objects and materials as solid, liquid, or gas.
SC.2.P.8.3:	Recognize that solids have a definite shape and that liquids and gases take the shape of their container.
SC.2.P.8.4:	Observe and describe water in its solid, liquid, and gaseous states.
SC.2.P.8.5:	Measure and compare temperatures taken every day at the same time.
SC.2.P.8.6:	Measure and compare the volume of liquids using containers of various shapes and sizes.
SC.2.P.9.1:	Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration.
SC.2.P.10.1:	Discuss that people use electricity or other forms of energy to cook their food, cool or warm their homes, and power their cars.
SC.2.P.13.1:	Investigate the effect of applying various pushes and pulls on different objects.
SC.2.P.13.2:	Demonstrate that magnets can be used to make some things move without touching them.
SC.2.P.13.3:	Recognize that objects are pulled toward the ground unless something holds them up.
SC.2.P.13.4:	Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.
SC.K2.CS-CC.1.2:	Conduct basic keyword searches, and exchange information and feedback with teachers and other students (e.g., e-mail and text messaging).
SC.K2.CS-CC.1.3:	Collaborate and cooperate with peers, teachers, and others using technology to solve problems.
SC.K2.CS-CC.1.4:	Provide and accept constructive criticism on a collaborative project.
SC.K2.CS-CP.2.1:	Define a computer program as a set of commands created by people to do something.
SC.K2.CS-CP.2.4:	Construct a simple program using tools that do not require a textual programming language (e.g. block-based programming language).
SC.K2.CS-CP.3.1:	Create developmentally appropriate multimedia products with support from teachers, family members, or student partners.
SC.K2.CS-CP.3.2:	Prepare a simple presentation of digital products and applications.
SC.K2.CS-CS.1.1:	Define simulation and identify the concepts illustrated by a simple simulation (e.g., growth, human health, and the butterfly life cycle).
SC.K2.CS-CS.1.3:	Describe how models represent a real-life system (e.g., globe or map).
SC.K2.CS-CS.2.1:	Arrange or sort information into useful order, such as sorting students by birth date, with or without technology.
SC.K2.CS-CS.2.2:	Solve age-appropriate problems (e.g., puzzles and logical thinking programs) with or without technology (i.e., computational thinking).
SC.K2.CS-CS.2.4:	Define an algorithm as a sequence of defined steps.
SC.K2.CS-CS.2.6:	Illustrate thoughts, ideas, and stories in a step-by-step manner using writing tools, digital cameras, and drawing tools.
SC.K2.CS-CS.2.7:	Develop and present an algorithm using tangible materials.
SC.K2.CS-CS.3.1:	Create a digital artifact (independently and collaboratively) that clearly expresses thoughts and ideas.
SC.K2.CS-CS.3.2:	Create, review, and revise artifacts that include text, images, and audio using digital tools.
SC.K2.CS-CS.4.3:	Explain that a computer program is running when a program or command is executed.
MAFS.2.MD.1.1:	Measure the length of an object to the nearest inch, foot, centimeter, or meter by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
MAFS.2.MD.1.2:	Describe the inverse relationship between the size of a unit and number of units needed to measure a given object. *Example: Suppose the perimeter of a room is lined with one-foot rulers. Now, suppose we want to line it with yardsticks instead of rulers. Will we need more or fewer yardsticks than rulers to do the job? Explain your answer.*
MAFS.2.MD.1.3:	Estimate lengths using units of inches, feet, yards, centimeters, and meters.
MAFS.2.MD.1.4:	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
MAFS.2.MD.2.5:	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
MAFS.2.MD.2.6:	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.
MAFS.2.MD.4.9:	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.

MAFS.2.MD.4.10:	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
MAFS.2.NBT.1.2:	Count within 1000; skip-count by 5s, 10s, and 100s.
MAFS.2.NBT.1.3:	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
MAFS.2.NBT.1.4:	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
MAFS.2.NBT.2.5:	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
MAFS.2.NBT.2.6:	Add up to four two-digit numbers using strategies based on place value and properties of operations.
MAFS.2.OA.2.2:	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

VERSION DESCRIPTION

This course offers students an opportunity to deepen science, mathematics, engineering, and technology skills. The primary content focus will be to expand knowledge of current grade level standards in mathematics and science by applying that content in a real world, hands-on situation involving engineering and technology. For second grade, themes will focus on the investigation of number sense, measurement, earth science, and physical science concepts.

Students will participate in various hands-on STEM activities in this supplemental course to assist in the mastery of current grade level mathematics and science standards.

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
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- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

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GENERAL INFORMATION

Course Number: 5020090

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >
Abbreviated Title: STEM LAB 2
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Status: Draft - Course Pending Approval

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

STEM Lab Grade 3 (#5020100) 2016 - 2022 (current)

Course Standards

Name	Description
SC.3.L.14.1:	Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.
SC.3.L.14.2:	Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.
SC.3.L.15.1:	Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.
SC.3.L.15.2:	Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics.
SC.3.L.17.1:	Describe how animals and plants respond to changing seasons.
SC.3.L.17.2:	Recognize that plants use energy from the Sun, air, and water to make their own food.
SC.3.N.1.1:	Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.
SC.3.N.1.2:	Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.
SC.3.N.1.3:	Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted.
SC.3.N.1.4:	Recognize the importance of communication among scientists.
SC.3.N.1.5:	Recognize that scientists question, discuss, and check each other's evidence and explanations.
SC.3.N.1.6:	Infer based on observation.
SC.3.N.1.7:	Explain that empirical evidence is information, such as observations or measurements, that is used to help validate explanations of natural phenomena.
SC.3.N.3.1:	Recognize that words in science can have different or more specific meanings than their use in everyday language; for example, energy, cell, heat/cold, and evidence.
SC.3.N.3.2:	Recognize that scientists use models to help understand and explain how things work.
SC.3.N.3.3:	Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.
SC.3.P.8.1:	Measure and compare temperatures of various samples of solids and liquids.
SC.3.P.8.2:	Measure and compare the mass and volume of solids and liquids.
SC.3.P.8.3:	Compare materials and objects according to properties such as size, shape, color, texture, and hardness.
SC.3.P.9.1:	Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.
SC.3.P.10.1:	Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.
SC.3.P.10.2:	Recognize that energy has the ability to cause motion or create change.
SC.3.P.10.3:	Demonstrate that light travels in a straight line until it strikes an object or travels from one medium to another.
SC.3.P.10.4:	Demonstrate that light can be reflected, refracted, and absorbed.
SC.3.P.11.1:	Investigate, observe, and explain that things that give off light often also give off heat.
SC.3.P.11.2:	Investigate, observe, and explain that heat is produced when one object rubs against another, such as rubbing one's hands together.
SC.35.CS-CC.1.1:	Identify technology tools for individual and collaborative data collection, writing, communication, and publishing activities.
SC.35.CS-CC.1.2:	Describe key ideas and details while working individually or collaboratively using digital tools and media-rich resources in a way that informs, persuades, and/or entertains.
SC.35.CS-CC.1.3:	Identify ways that technology can foster teamwork, and collaboration can support problem solving and innovation.
SC.35.CS-CP.1.2:	Identify and describe examples of databases from everyday life (e.g., library catalogs, school records, telephone directories, and contact lists).
SC.35.CS-CP.1.3:	Identify, research, and collect a data set on a topic, issue, problem, or question using age-appropriate technologies.
SC.35.CS-CP.1.4:	Collect, organize, graph, and analyze data to answer a question using a database or spreadsheet.
SC.35.CS-CP.2.4:	Explain that programs need known initial conditions (e.g., set initial score to zero in a game, initialize variables, or initial values set by hardware input).
SC.35.CS-CP.2.5:	Detect and correct program errors, including those involving arithmetic operators, conditionals, and repetition, using interactive debugging.
SC.35.CS-CP.3.1:	Write, communicate and publish activities using technology tools.
SC.35.CS-CP.3.2:	Present digitally created products, either individually and collaboratively, where a topic, concept, or skill is carefully analyzed or thoughtfully explored.
SC.35.CS-CS.1.1:	Identify the concepts illustrated by a simulation (e.g., ecosystem, predator/prey, and invasive species).
SC.35.CS-CS.1.3:	Answer a question, individually and collaboratively, using data from a simulation.
SC.35.CS-CS.1.4:	Create a simple model of a system (e.g., flower or solar system) and explain what the model shows and does not show.
SC.35.CS-CS.2.1:	Solve age-appropriate problems using information organized using digital graphic organizers (e.g., concept maps and Venn-diagrams).
SC.35.CS-CS.2.3:	Explain the process of arranging or sorting information into useful order as well as the purpose for doing so.
SC.35.CS-CS.3.1:	Manipulate and publish multimedia artifacts using digital tools (local and online).
SC.35.CS-CS.3.2:	Create an artifact (independently and collaboratively) that answers a research question clearly communicating thoughts and ideas.
SC.35.CS-CS.6.1:	Describe how hardware applications (e.g., Global Positioning System (GPS) navigation for driving directions, text-to-speech translation, and language translation) can enable everyone to do things they could not do otherwise.
SC.35.CS-PC.2.6:	Communicate about technology using appropriate terminology.
SC.35.CS-PC.3.1:	Identify digital information resources used to answer research questions (e.g., online library catalog, online encyclopedias, databases, and websites).
SC.35.CS-PC.3.2:	Gather, organize, and analyze information from digital resources.
SC.35.CS-PC.3.3:	Compare digital resources for accuracy, relevancy, and appropriateness.
SC.35.CS-PC.4.1:	Describe the difference between digital artifacts that are open or free and those that are protected by copyright.
MAFS.3.G.1.2:	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*
	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or

	divide to solve one-step word problems involving masses or volumes that are given in the same units.
MAFS.3.MD.1.2:	**Clarifications:** **Examples of Opportunities for In-Depth Focus** Continuous measurement quantities such as liquid volume, mass, and so on are an important context for fraction arithmetic (cf. 4.NF.2.4c, 5.NF.2.7c, 5.NF.2.3). In grade 3, students begin to get a feel for continuous measurement quantities and solve whole- number problems involving such quantities.
MAFS.3.MD.2.3:	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
MAFS.3.MD.2.4:	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
MAFS.3.NBT.1.1:	Use place value understanding to round whole numbers to the nearest 10 or 100.
MAFS.3.NBT.1.2:	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **Clarifications:** Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. (Although 3.OA.3.7 and 3.NBT.1.2 are both fluency standards, these two standards do not represent equal investments of time in grade 3. Note that students in grade 2 were already adding and subtracting within 1000, just not fluently. That makes 3.NBT.1.2 a relatively small and incremental expectation. By contrast, multiplication and division are new in grade 3, and meeting the multiplication and division fluency standard 3.OA.3.7 with understanding is a major portion of students' work in grade 3.)
MAFS.3.NBT.1.3:	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.
MAFS.3.NF.1.1:	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
MAFS.3.NF.1.3:	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

VERSION DESCRIPTION

This course offers students an opportunity to deepen science, mathematics, engineering, and technology skills. The primary content focus will be to expand knowledge of current grade level standards in mathematics and science by applying that content in a real world, hands-on situation involving engineering and technology. For third grade, themes will focus on the investigation of number sense, measurement, geometry, life science, and physical science concepts.

Students will participate in various hands-on STEM activities in this supplemental course to assist in the mastery of current grade level mathematics and science standards.

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English Language Learners (ELL) to communicate information, ideas and concepts for academic success in science and math. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant

content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 5020100

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: STEM LAB 3

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Status: Draft - Course Pending Approval

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

STEM Lab Grade 4 (#5020110) 2016 - 2022 (current)

Course Standards

Name	Description
SC.35.CS-CC.1.1:	Identify technology tools for individual and collaborative data collection, writing, communication, and publishing activities.
SC.35.CS-CC.1.2:	Describe key ideas and details while working individually or collaboratively using digital tools and media-rich resources in a way that informs, persuades, and/or entertains.
SC.35.CS-CC.1.3:	Identify ways that technology can foster teamwork, and collaboration can support problem solving and innovation.
SC.35.CS-CC.1.5:	Explain that providing and receiving feedback from others can improve performance and outcomes for collaborative digital projects.
SC.35.CS-CP.1.2:	Identify and describe examples of databases from everyday life (e.g., library catalogs, school records, telephone directories, and contact lists).
SC.35.CS-CP.1.3:	Identify, research, and collect a data set on a topic, issue, problem, or question using age-appropriate technologies.
SC.35.CS-CP.1.4:	Collect, organize, graph, and analyze data to answer a question using a database or spreadsheet.
SC.35.CS-CP.2.1:	Perform keyboarding skills for communication and the input of data and information.
SC.35.CS-CP.2.2:	Create, test, and modify a program in a graphical environment (e.g., block-based visual programming language), individually and collaboratively.
SC.35.CS-CP.2.4:	Explain that programs need known initial conditions (e.g., set initial score to zero in a game, initialize variables, or initial values set by hardware input).
SC.35.CS-CP.2.5:	Detect and correct program errors, including those involving arithmetic operators, conditionals, and repetition, using interactive debugging.
SC.35.CS-CP.3.1:	Write, communicate and publish activities using technology tools.
SC.35.CS-CP.3.2:	Present digitally created products, either individually and collaboratively, where a topic, concept, or skill is carefully analyzed or thoughtfully explored.
SC.35.CS-CS.1.1:	Identify the concepts illustrated by a simulation (e.g., ecosystem, predator/prey, and invasive species).
SC.35.CS-CS.1.3:	Answer a question, individually and collaboratively, using data from a simulation.
SC.35.CS-CS.1.4:	Create a simple model of a system (e.g., flower or solar system) and explain what the model shows and does not show.
SC.35.CS-CS.2.1:	Solve age-appropriate problems using information organized using digital graphic organizers (e.g., concept maps and Venn-diagrams).
SC.35.CS-CS.2.3:	Explain the process of arranging or sorting information into useful order as well as the purpose for doing so.
SC.35.CS-CS.2.7:	Identify and correct logical errors in algorithms; written, mapped, live action, or digital.
SC.35.CS-CS.2.8:	Systematically test and identify logical errors in algorithms.
SC.35.CS-CS.2.9:	Explain how to correct logical errors in algorithms; written, mapped, live action, or digital.
SC.35.CS-CS.3.1:	Manipulate and publish multimedia artifacts using digital tools (local and online).
SC.35.CS-CS.3.2:	Create an artifact (independently and collaboratively) that answers a research question clearly communicating thoughts and ideas.
SC.35.CS-PC.3.2:	Gather, organize, and analyze information from digital resources.
SC.35.CS-PC.3.3:	Compare digital resources for accuracy, relevancy, and appropriateness.
SC.4.E.6.1:	Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure).
SC.4.E.6.2:	Identify the physical properties of common earth-forming minerals, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks.
SC.4.E.6.3:	Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.
SC.4.E.6.4:	Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).
SC.4.E.6.5:	Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things.
SC.4.E.6.6:	Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy).
SC.4.L.16.4:	Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants.
SC.4.L.17.2:	Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.
SC.4.L.17.3:	Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.
SC.4.N.1.1:	Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.
SC.4.N.1.2:	Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.
SC.4.N.1.3:	Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence.
SC.4.N.1.4:	Attempt reasonable answers to scientific questions and cite evidence in support.
SC.4.N.1.5:	Compare the methods and results of investigations done by other classmates.
SC.4.N.1.6:	Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.
SC.4.N.1.7:	Recognize and explain that scientists base their explanations on evidence.
SC.4.N.1.8:	Recognize that science involves creativity in designing experiments.
SC.4.P.8.1:	Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets.
SC.4.P.8.2:	Identify properties and common uses of water in each of its states.
SC.4.P.8.3:	Explore the Law of Conservation of Mass by demonstrating that the mass of a whole object is always the same as the sum of the masses of its parts.
SC.4.P.8.4:	Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets.
SC.4.P.9.1:	Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking.
SC.4.P.10.1:	Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.
SC.4.P.10.2:	Investigate and describe that energy has the ability to cause motion or create change.

SC.4.P.10.3:	Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.
SC.4.P.12.1:	Recognize that an object in motion always changes its position and may change its direction.
SC.4.P.12.2:	Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.
MAFS.4.G.1.1:	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
MAFS.4.G.1.2:	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
MAFS.4.G.1.3:	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
MAFS.4.MD.1.1:	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
MAFS.4.MD.1.2:	Use the four operations to solve word problems[1] involving distances, intervals of time, and money, including problems involving simple fractions or decimals[2]. Represent fractional quantities of distance and intervals of time using linear models. ([1]See glossary Table 1 and Table 2) ([2]Computational fluency with fractions and decimals is not the goal for students at this grade level.)
MAFS.4.MD.1.3:	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*
MAFS.4.MD.2.4:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*
MAFS.4.MD.3.5:	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.
MAFS.4.MD.3.6:	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
MAFS.4.MD.3.7:	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
MAFS.4.NF.3.5:	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
MAFS.4.NF.3.6:	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
MAFS.4.NF.3.7:	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

VERSION DESCRIPTION

This course offers students an opportunity to deepen science, mathematics, engineering, and technology skills. The primary content focus will be to expand knowledge of current grade level standards in mathematics and science by applying that content in a real world, hands-on situation involving engineering and technology. For fourth grade, themes will focus on the investigation of number sense, measurement, geometry, earth science, life science, and physical science concepts.

Students will participate in various hands-on STEM activities in this supplemental course to assist in the mastery of current grade level mathematics and science standards.

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).
- Engaging in argument from evidence.

- Obtaining, evaluating, and communicating information.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English Language Learners (ELL) to communicate information, ideas and concepts for academic success in science and math. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 5020110

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: STEM LAB 4

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Status: Draft - Course Pending Approval

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

STEM Lab Grade 5 (#5020120) 2016 - 2022 (current)

Course Standards

Name	Description
SC.35.CS-CC.1.1:	Identify technology tools for individual and collaborative data collection, writing, communication, and publishing activities.
SC.35.CS-CC.1.2:	Describe key ideas and details while working individually or collaboratively using digital tools and media-rich resources in a way that informs, persuades, and/or entertains.
SC.35.CS-CC.1.3:	Identify ways that technology can foster teamwork, and collaboration can support problem solving and innovation.
SC.35.CS-CC.1.5:	Explain that providing and receiving feedback from others can improve performance and outcomes for collaborative digital projects.
SC.35.CS-CP.1.2:	Identify and describe examples of databases from everyday life (e.g., library catalogs, school records, telephone directories, and contact lists).
SC.35.CS-CP.1.3:	Identify, research, and collect a data set on a topic, issue, problem, or question using age-appropriate technologies.
SC.35.CS-CP.1.4:	Collect, organize, graph, and analyze data to answer a question using a database or spreadsheet.
SC.35.CS-CP.2.1:	Perform keyboarding skills for communication and the input of data and information.
SC.35.CS-CP.2.2:	Create, test, and modify a program in a graphical environment (e.g., block-based visual programming language), individually and collaboratively.
SC.35.CS-CP.2.4:	Explain that programs need known initial conditions (e.g., set initial score to zero in a game, initialize variables, or initial values set by hardware input).
SC.35.CS-CP.2.5:	Detect and correct program errors, including those involving arithmetic operators, conditionals, and repetition, using interactive debugging.
SC.35.CS-CS.1.1:	Identify the concepts illustrated by a simulation (e.g., ecosystem, predator/prey, and invasive species).
SC.35.CS-CS.1.3:	Answer a question, individually and collaboratively, using data from a simulation.
SC.35.CS-CS.2.1:	Solve age-appropriate problems using information organized using digital graphic organizers (e.g., concept maps and Venn-diagrams).
SC.35.CS-CS.2.3:	Explain the process of arranging or sorting information into useful order as well as the purpose for doing so.
SC.35.CS-CS.2.5:	Explain that there are several possible algorithms for searching within a dataset (such as finding a specific word in a word list or card in a deck of cards).
SC.35.CS-CS.2.6:	Write an algorithm to solve a grade-level appropriate problem (e.g., move a character through a maze, instruct a character to draw a specific shape, have a character start, repeat or end activity as required or upon a specific event), individually or collaboratively.
SC.35.CS-CS.2.7:	Identify and correct logical errors in algorithms; written, mapped, live action, or digital.
SC.35.CS-CS.2.8:	Systematically test and identify logical errors in algorithms.
SC.35.CS-CS.2.9:	Explain how to correct logical errors in algorithms; written, mapped, live action, or digital.
SC.35.CS-CS.3.1:	Manipulate and publish multimedia artifacts using digital tools (local and online).
SC.35.CS-CS.3.2:	Create an artifact (independently and collaboratively) that answers a research question clearly communicating thoughts and ideas.
SC.35.CS-CS.6.2:	Compare and contrast human and computer performance on similar tasks (e.g., sorting alphabetically or finding a path across a cluttered room) to understand which is best suited to the task.
SC.5.N.1.1:	Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.5.N.1.2:	Explain the difference between an experiment and other types of scientific investigation.
SC.5.N.1.3:	Recognize and explain the need for repeated experimental trials.
SC.5.N.1.4:	Identify a control group and explain its importance in an experiment.
SC.5.N.1.5:	Recognize and explain that authentic scientific investigation frequently does not parallel the steps of "the scientific method."
SC.5.N.1.6:	Recognize and explain the difference between personal opinion/interpretation and verified observation.
SC.5.P.8.1:	Compare and contrast the basic properties of solids, liquids, and gases, such as mass, volume, color, texture, and temperature.
SC.5.P.8.2:	Investigate and identify materials that will dissolve in water and those that will not and identify the conditions that will speed up or slow down the dissolving process.
SC.5.P.8.3:	Demonstrate and explain that mixtures of solids can be separated based on observable properties of their parts such as particle size, shape, color, and magnetic attraction.
SC.5.P.8.4:	Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification.
SC.5.P.9.1:	Investigate and describe that many physical and chemical changes are affected by temperature.
SC.5.P.10.1:	Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.
SC.5.P.10.2:	Investigate and explain that energy has the ability to cause motion or create change.
SC.5.P.10.3:	Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects.
SC.5.P.10.4:	Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion.
SC.5.P.11.1:	Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop).
SC.5.P.11.2:	Identify and classify materials that conduct electricity and materials that do not.
SC.5.P.13.1:	Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.
SC.5.P.13.2:	Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.
SC.5.P.13.3:	Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion.
SC.5.P.13.4:	Investigate and explain that when a force is applied to an object but it does not move, it is because another opposing force is being applied by something in the environment so that the forces are balanced.
MAFS.5.G.1.1:	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

MAFS.5.G.1.2:	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
MAFS.5.MD.1.1:	Convert among different-sized standard measurement units (i.e., km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec) within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
MAFS.5.MD.2.2:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*
MAFS.5.MD.3.3:	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
MAFS.5.MD.3.4:	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
MAFS.5.MD.3.5:	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas V = l × w × h and V = B × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems. **Clarifications:** **Examples of Opportunities for In-Depth Focus** Students work with volume as an attribute of a solid figure and as a measurement quantity. Students also relate volume to multiplication and addition. This work begins a progression leading to valuable skills in geometric measurement in middle school.
MAFS.5.NF.1.1:	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
MAFS.5.NF.1.2:	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.* **Clarifications:** **Examples of Opportunities for In-Depth Focus** When students meet this standard, they bring together the threads of fraction equivalence (grades 3–5) and addition and subtraction (grades K–4) to fully extend addition and subtraction to fractions.
MAFS.5.NF.2.3:	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

General Course Information and Notes

VERSION DESCRIPTION

This course offers students an opportunity to deepen science, mathematics, engineering, and technology skills. The primary content focus will be to expand knowledge of current grade level standards in mathematics and science by applying that content in a real world, hands-on situation involving engineering and technology. For fifth grade, themes will focus on the investigation of number sense, measurement, geometry, and physical science concepts.

Students will participate in various hands-on STEM activities in this supplemental course to assist in the mastery of current grade level mathematics and science standards.

Instructional Practices
Teaching from a range of complex text is optimized when teachers in all subject areas implement the following strategies on a routine basis:

1. Ensuring wide reading from complex text that varies in length.
2. Making close reading and rereading of texts central to lessons.
3. Emphasizing text-specific complex questions, and cognitively complex tasks, reinforce focus on the text and cultivate independence.
4. Emphasizing students supporting answers based upon evidence from the text.
5. Providing extensive research and writing opportunities (claims and evidence).

Science and Engineering Practices (NRC *Framework for K-12 Science Education, 2010*)

- Asking questions (for science) and defining problems (for engineering).
- Developing and using models.
- Planning and carrying out investigations.
- Analyzing and interpreting data.
- Using mathematics, information and computer technology, and computational thinking.
- Constructing explanations (for science) and designing solutions (for engineering).

- Engaging in argument from evidence.
- Obtaining, evaluating, and communicating information.

English Language Development (ELD) Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English Language Learners (ELL) to communicate information, ideas and concepts for academic success in science and math. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SC.pdf.

GENERAL INFORMATION

Course Number: 5020120

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades PreK to 5 Education Courses > **Subject:** Science > **SubSubject:** General Sciences >

Abbreviated Title: STEM LAB 5

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Status: Draft - Course Pending Approval

Educator Certifications

Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

M/J United States History (#2100010) 2018 - 2022 (current)

Course Standards

Name	Description
SS.8.A.1.1:	Provide supporting details for an answer from text, interview for oral history, check validity of information from research/text, and identify strong vs. weak arguments. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigage, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf.
SS.8.A.1.2:	Analyze charts, graphs, maps, photographs and timelines; analyze political cartoons; determine cause and effect.
SS.8.A.1.3:	Analyze current events relevant to American History topics through a variety of electronic and print media resources. **Clarifications:** Examples may include, but are not limited to, articles, editorials, journals, periodicals, reports, websites, videos, and podcasts.
SS.8.A.1.4:	Differentiate fact from opinion, utilize appropriate historical research and fiction/nonfiction support materials.
SS.8.A.1.5:	Identify, within both primary and secondary sources, the author, audience, format, and purpose of significant historical documents. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.8.A.1.6:	Compare interpretations of key events and issues throughout American History. **Clarifications:** Examples may include, but are not limited to, historiography.
SS.8.A.1.7:	View historic events through the eyes of those who were there as shown in their art, writings, music, and artifacts.
SS.8.A.2.1:	Compare the relationships among the British, French, Spanish, and Dutch in their struggle for colonization of North America. **Clarifications:** This benchmark implies a study of the ways that economic, political, cultural, and religious competition between these Atlantic powers shaped early colonial America.
SS.8.A.2.2:	Compare the characteristics of the New England, Middle, and Southern colonies. **Clarifications:** Examples may include, but are not limited to, colonial governments, geographic influences, occupations, religion, education, settlement patterns, and social patterns.
SS.8.A.2.3:	Differentiate economic systems of New England, Middle and Southern colonies including indentured servants and slaves as labor sources. **Clarifications:** Examples may include, but are not limited to, subsistence farming, cash crop farming, and maritime industries.
SS.8.A.2.4:	Identify the impact of key colonial figures on the economic, political, and social development of the colonies. **Clarifications:** Examples may include, but are not limited to, John Smith, William Penn, Roger Williams, Anne Hutchinson, John Winthrop, Jonathan Edwards, William Bradford, Nathaniel Bacon, John Peter Zenger, and Lord Calvert.
SS.8.A.2.5:	Discuss the impact of colonial settlement on Native American populations. **Clarifications:** Examples may include, but are not limited to, war, disease, loss of land, westward displacement of tribes causing increased conflict between tribes, and dependence on trade for Western goods, including guns.
SS.8.A.2.6:	Examine the causes, course, and consequences of the French and Indian War. **Clarifications:** Examples may include, but are not limited to, ongoing conflict between France and England, territorial disputes, trade competition, Ft. Duquesne, Ft. Quebec, Treaty of Paris, heavy British debt.
SS.8.A.2.7:	Describe the contributions of key groups (Africans, Native Americans, women, and children) to the society and culture of colonial America.
SS.8.A.3.1:	Explain the consequences of the French and Indian War in British policies for the American colonies from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, Proclamation of 1763, Sugar Act, Quartering Act, Stamp Act, Declaratory Act, Townshend Acts, Tea Act, Quebec Act, and Coercive Acts.
SS.8.A.3.2:	Explain American colonial reaction to British policy from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, written protests, boycotts, unrest leading to the Boston Massacre, Boston Tea Party, First Continental Congress, Stamp Act Congress, Committees of Correspondence.
SS.8.A.3.3:	Recognize the contributions of the Founding Fathers (John Adams, Sam Adams, Benjamin Franklin, John Hancock, Alexander Hamilton, Thomas Jefferson, James Madison, George Mason, George Washington) during American Revolutionary efforts. **Clarifications:** Examples may also include, but are not limited to, Thomas Paine, John Jay, Peter Salem.
	Examine the contributions of influential groups to both the American and British war efforts during the American Revolutionary War and their effects on the outcome of the war.

SS.8.A.3.4:	**Clarifications:** Examples may include, but are not limited to, foreign alliances, freedmen, Native Americans, slaves, women, soldiers, Hessians.
SS.8.A.3.5:	Describe the influence of individuals on social and political developments during the Revolutionary era. **Clarifications:** Examples may include, but are not limited to, James Otis, Mercy Otis Warren, Abigail Adams, Benjamin Banneker, Lemuel Haynes, Phyllis Wheatley.
SS.8.A.3.6:	Examine the causes, course, and consequences of the American Revolution. **Clarifications:** Examples may include, but are not limited to, Battles of Lexington and Concord, Common Sense, Second Continental Congress, Battle of Bunker Hill, Battle of Cowpens, Battle of Trenton, Olive Branch Petition, Declaration of Independence, winter at Valley Forge, Battles of Saratoga and Yorktown, Treaty of Paris.
SS.8.A.3.7:	Examine the structure, content, and consequences of the Declaration of Independence.
SS.8.A.3.8:	Examine individuals and groups that affected political and social motivations during the American Revolution. **Clarifications:** Examples may include, but are not limited to, Ethan Allen and the Green Mountain Boys, the Committees of Correspondence, Sons of Liberty, Daughters of Liberty, the Black Regiment (in churches), Patrick Henry, Patriots, Loyalists, individual colonial militias, and undecideds.
SS.8.A.3.9:	Evaluate the structure, strengths, and weaknesses of the Articles of Confederation and its aspects that led to the Constitutional Convention.
SS.8.A.3.10:	Examine the course and consequences of the Constitutional Convention (New Jersey Plan, Virginia Plan, Great Compromise, Three-Fifths Compromise, compromises regarding taxation and slave trade, Electoral College, state vs. federal power, empowering a president).
SS.8.A.3.11:	Analyze support and opposition (Federalists, Federalist Papers, AntiFederalists, Bill of Rights) to ratification of the U.S. Constitution.
SS.8.A.3.12:	Examine the influences of George Washington's presidency in the formation of the new nation. **Clarifications:** Examples may include, but are not limited to, personal motivations, military experience, political influence, establishing Washington, D.C. as the nation's capital, rise of the party system, setting of precedents (e.g., the Cabinet), Farewell Address.
SS.8.A.3.13:	Explain major domestic and international economic, military, political, and socio-cultural events of John Adams's presidency. **Clarifications:** Examples may include, but aren ot limited to, XYZ Affairs, Alien and Sedition Acts, Land Act of 1800, the quasi-war, the Midnight Judges.
SS.8.A.3.14:	Explain major domestic and international economic, military, political, and socio-cultural events of Thomas Jefferson's presidency. **Clarifications:** Examples may include, but are not limited to, Election of 1800, birth of political parties, Marbury v. Madison, judicial review, Jefferson's First Inaugural Address, Judiciary Act of 1801, Louisiana Purchase, Barbary War, Lewis and Clark Expedition, Hamilton and Burr conflict/duel, Embargo of 1807.
SS.8.A.3.15:	Examine this time period (1763-1815) from the perspective of historically under-represented groups (children, indentured servants, Native Americans, slaves, women, working class).
SS.8.A.3.16:	Examine key events in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Treaty of Paris, British rule, Second Spanish Period.
SS.8.A.4.1:	Examine the causes, course, and consequences of United States westward expansion and its growing diplomatic assertiveness (War of 1812, Convention of 1818, Adams-Onis Treaty, Missouri Compromise, Monroe Doctrine, Trail of Tears, Texas annexation, Manifest Destiny, Oregon Territory, Mexican American War/Mexican Cession, California Gold Rush, Compromise of 1850, Kansas Nebraska Act, Gadsden Purchase).
SS.8.A.4.2:	Describe the debate surrounding the spread of slavery into western territories and Florida. **Clarifications:** Examples may include, but are not limited to, abolitionist movement, Ft. Mose, Missouri Compromise, Bleeding Kansas, Kansas-Nebraska Act, Compromise of 1850.
SS.8.A.4.3:	Examine the experiences and perspectives of significant individuals and groups during this era of American History. **Clarifications:** Examples may include, but are not limited to, Lewis and Clark, Sacajawea, York, Pike, Native Americans, Buffalo Soldiers, Mexicanos, Chinese immigrants, Irish immigrants, children, slaves, women, Alexis de Tocqueville, political parties.
SS.8.A.4.4:	Discuss the impact of westward expansion on cultural practices and migration patterns of Native American and African slave populations.
SS.8.A.4.5:	Explain the causes, course, and consequences of the 19th century transportation revolution on the growth of the nation's economy. **Clarifications:** Examples may include, but are not limited to, roads, canals, bridges, steamboats, railroads.
SS.8.A.4.6:	Identify technological improvements (inventions/inventors) that contributed to industrial growth. **Clarifications:** Examples may include, but are not limited to, Fitch/steamboat, Slater/textile mill machinery, Whitney/cotton gin, interchangeable parts, McCoy/industrial lubrication, Fulton/commercial steamboat, Lowell/ mechanized cotton mill, Isaac Singer/sewing machine.
SS.8.A.4.7:	Explain the causes, course, and consequences (industrial growth, subsequent effect on children and women) of New England's textile industry.
SS.8.A.4.8:	Describe the influence of individuals on social and political developments of this era in American History. **Clarifications:** Examples may include, but are not limited to, Daniel Boone, Tecumseh, Black Hawk, John Marshall, James Madison, Dolly Madison, Andrew Jackson, John C. Calhoun, Henry Clay, Daniel Webster, James Polk, Susan B. Anthony, Elizabeth Cady Stanton, William Lloyd Garrison, Frederick Douglass, Horace Mann, Dorothea Dix, Lucretia Mott, Sojourner Truth, Harriet Tubman.
SS.8.A.4.9:	Analyze the causes, course and consequences of the Second Great Awakening on social reform movements. **Clarifications:** Examples may include, but are not limited to, abolition, women's rights, temperance, education, prison and mental health reform, Charles Grandison Finney, the Beecher family.

SS.8.A.4.10:	Analyze the impact of technological advancements on the agricultural economy and slave labor. **Clarifications:** Examples may include, but are not limited to, cotton gin, steel plow, rapid growth of slave trade.
SS.8.A.4.11:	Examine the aspects of slave culture including plantation life, resistance efforts, and the role of the slaves' spiritual system.
SS.8.A.4.12:	Examine the effects of the 1804 Haitian Revolution on the United States acquisition of the Louisiana Territory.
SS.8.A.4.13:	Explain the consequences of landmark Supreme Court decisions (McCulloch v. Maryland [1819], Gibbons v. Odgen [1824], Cherokee Nation v. Georgia [1831], and Worcester v. Georgia [1832]) significant to this era of American history.
SS.8.A.4.14:	Examine the causes, course, and consequences of the women's suffrage movement (1848 Seneca Falls Convention, Declaration of Sentiments).
SS.8.A.4.15:	Examine the causes, course, and consequences of literature movements (Transcendentalism) significant to this era of American history.
SS.8.A.4.16:	Identify key ideas and influences of Jacksonian democracy. **Clarifications:** Examples may include, but are not limited to, political participation, political parties, constitutional government, spoils system, National Bank veto, Maysville Road veto, tariff battles, Indian Removal Act, nullification crisis.
SS.8.A.4.17:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Andrew Jackson's military expeditions to end Indian uprisings, developing relationships between the Seminole and runaway slaves, Adams-Onis Treaty, Florida becoming a United States territory, combining former East and West Floridas, establishing first state capital, Florida's constitution, Florida's admittance to the Union as 27th state.
SS.8.A.4.18:	Examine the experiences and perspectives of different ethnic, national, and religious groups in Florida, explaining their contributions to Florida's and America's society and culture during the Territorial Period. **Clarifications:** Examples may include, but are not limited to, Osceola, white settlers, U.S. troops, Black Seminoles, southern plantation and slave owners, Seminole Wars, Treaty of Moultrie Creek, Seminole relocation, Chief Billy Bowlegs, Florida Crackers.
SS.8.A.5.1:	Explain the causes, course, and consequence of the Civil War (sectionalism, slavery, states' rights, balance of power in the Senate).
SS.8.A.5.2:	Analyze the role of slavery in the development of sectional conflict. **Clarifications:** Examples may include, but are not limited to, Abolition Movement, Nat Turner's Rebellion, Black Codes, Missouri Compromise, Compromise of 1850, Uncle Tom's Cabin, Kansas-Nebraska Act, Dred Scott v. Sandford, Lincoln-Douglas Debates, raid on Harper's Ferry, Underground Railroad, Presidential Election of 1860, Southern secession.
SS.8.A.5.3:	Explain major domestic and international economic, military, political, and socio-cultural events of Abraham Lincoln's presidency. **Clarifications:** Examples may include, but aren ot limited to, sectionalism, states' rights, slavery, Civil War, attempts at foreign alliances, Emancipation Proclamation, Gettysburg Address, suspension of habeas corpus, First and Second Inaugural Addresses.
SS.8.A.5.4:	Identify the division (Confederate and Union States, Border states, western territories) of the United States at the outbreak of the Civil War.
SS.8.A.5.5:	Compare Union and Confederate strengths and weaknesses. **Clarifications:** Examples may include, but aren ot limited to, technology, resources, alliances, geography, military leaders-Lincoln, Davis, Grant, Lee, Jackson, Sherman.
SS.8.A.5.6:	Compare significant Civil War battles and events and their effects on civilian populations. **Clarifications:** Examples may include, but are not limited to, Fort Sumter, Bull Run, Monitor v. Merrimack, Antietam, Vicksburg, Gettysburg, Emancipation Proclamation, Sherman's March, Lee's surrender at Appomattox.
SS.8.A.5.7:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, slavery, influential planters, Florida's secession and Confederate membership, women, children, pioneer environment, Union occupation, Battle of Olustee and role of 54th Massachusetts regiment, Battle at Natural Bridge.
SS.8.A.5.8:	Explain and evaluate the policies, practices, and consequences of Reconstruction (presidential and congressional reconstruction, Johnson's impeachment, Civil Rights Act of 1866, the 13th, 14th, and 15th Amendments, opposition of Southern whites to Reconstruction, accomplishments and failures of Radical Reconstruction, presidential election of 1876, end of Reconstruction, rise of Jim Crow laws, rise of Ku Klux Klan).
SS.8.C.1.1:	Identify the constitutional provisions for establishing citizenship.
SS.8.C.1.2:	Compare views of self-government and the rights and responsibilities of citizens held by Patriots, Loyalists, and other colonists.
SS.8.C.1.3:	Recognize the role of civic virtue in the lives of citizens and leaders from the colonial period through Reconstruction.
SS.8.C.1.4:	Identify the evolving forms of civic and political participation from the colonial period through Reconstruction.
SS.8.C.1.5:	Apply the rights and principles contained in the Constitution and Bill of Rights to the lives of citizens today.
SS.8.C.1.6:	Evaluate how amendments to the Constitution have expanded voting rights from our nation's early history to present day.
SS.8.C.2.1:	Evaluate and compare the essential ideals and principles of American constitutional government expressed in primary sources from the colonial period to Reconstruction.
SS.8.E.1.1:	Examine motivating economic factors that influenced the development of the United States economy over time including scarcity, supply and demand, opportunity costs, incentives, profits, and entrepreneurial aspects. **Clarifications:** Examples areTriangular Trade, colonial development - New England, Middle, and Southern colonies - Revolutionary War, Manifest Destiny, compromises over slavery issues, the Civil War, Reconstruction.
SS.8.E.2.1:	Analyze contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States economy.
SS.8.E.2.2:	Explain the economic impact of government policies. **Clarifications:** Examples are mercantilism, colonial establishment, Articles of Confederation, Constitution, compromises over slavery.

SS.8.E.2.3:	Assess the role of Africans and other minority groups in the economic development of the United States.
SS.8.E.3.1:	Evaluate domestic and international interdependence. **Clarifications:** Examples are triangular trade routes and regional exchange of resources.
SS.8.G.1.1:	Use maps to explain physical and cultural attributes of major regions throughout American history.
SS.8.G.1.2:	Use appropriate geographic tools and terms to identify and describe significant places and regions in American history.
SS.8.G.2.1:	Identify the physical elements and the human elements that define and differentiate regions as relevant to American history. **Clarifications:** Examples of physical elements are climate, terrain, resources. Examples of human elements are religion, government, economy, language, demography.
SS.8.G.2.2:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the United States that have had critical economic, physical, or political ramifications. **Clarifications:** Examples are cataclysmic natural disasters, shipwrecks.
SS.8.G.2.3:	Use geographic terms and tools to analyze case studies of how selected regions of the United States have changed over time.
SS.8.G.3.1:	Locate and describe in geographic terms the major ecosystems of the United States.
SS.8.G.3.2:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in the United States and Florida over time.
SS.8.G.4.1:	Interpret population growth and other demographic data for any given place in the United States throughout its history.
SS.8.G.4.2:	Use geographic terms and tools to analyze the effects throughout American history of migration to and within the United States, both on the place of origin and destination.
SS.8.G.4.3:	Use geographic terms and tools to explain cultural diffusion throughout the United States as it expanded its territory.
SS.8.G.4.4:	Interpret databases, case studies, and maps to describe the role that regions play in influencing trade, migration patterns, and cultural/political interaction in the United States throughout time.
SS.8.G.4.5:	Use geographic terms and tools to analyze case studies of the development, growth, and changing nature of cities and urban centers in the United States over time.
SS.8.G.4.6:	Use political maps to describe changes in boundaries and governance throughout American history.
SS.8.G.5.1:	Describe human dependence on the physical environment and natural resources to satisfy basic needs in local environments in the United States.
SS.8.G.5.2:	Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history. **Clarifications:** Examples are deforestation, urbanization, agriculture.
SS.8.G.6.1:	Use appropriate maps and other graphic representations to analyze geographic problems and changes over time throughout American history.
SS.8.G.6.2:	Illustrate places and events in U.S. history through the use of narratives and graphic representations. **Clarifications:** Examples are maps, graphs, tables.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
LAFS.68.RH.1.3:	Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).
LAFS.68.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
LAFS.68.RH.2.5:	Describe how a text presents information (e.g., sequentially, comparatively, causally).
LAFS.68.RH.2.6:	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
LAFS.68.RH.3.7:	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots. **Standard Relation to Course: Supporting**
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.

	Critique school and public health policies that influence health promotion and disease prevention.
HE.8.C.2.4:	**Clarifications:** Speed-limit laws, immunization requirements, universal precautions, zero tolerance, report bullying, and cell phone/texting laws.

General Course Information and Notes

GENERAL NOTES

Primary content emphasis for this course pertains to the study of American history from the Exploration and Colonization period to the Reconstruction Period following the Civil War. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to explore those fundamental ideas and events which occurred after Reconstruction.

Mathematics Benchmark Guidance - Instruction of U.S. History should include opportunities for students to interpret and create representations of historical events using mathematical tables, charts, and graphs.

Special Notes:

Additional content that may be contained in the NAEP Grade 8 United States History assessment includes material from all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assets/documents/publications/frameworks/historyframework.pdf

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.

2. Making close reading and rereading of texts central to lessons.

3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.

4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/
A.V.E. for Success Collection: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139

GENERAL INFORMATION

Course Number: 2100010

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: M/J US HIST

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Social Science (Grades 5-9)
Social Science (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J United States History & Career Planning (#2100015) 2019 - 2022 (current)

Course Standards

Name	Description
SS.8.A.1.1:	Provide supporting details for an answer from text, interview for oral history, check validity of information from research/text, and identify strong vs. weak arguments. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigage, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf.
SS.8.A.1.2:	Analyze charts, graphs, maps, photographs and timelines; analyze political cartoons; determine cause and effect.
SS.8.A.1.3:	Analyze current events relevant to American History topics through a variety of electronic and print media resources. **Clarifications:** Examples may include, but are not limited to, articles, editorials, journals, periodicals, reports, websites, videos, and podcasts.
SS.8.A.1.4:	Differentiate fact from opinion, utilize appropriate historical research and fiction/nonfiction support materials.
SS.8.A.1.5:	Identify, within both primary and secondary sources, the author, audience, format, and purpose of significant historical documents. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.8.A.1.6:	Compare interpretations of key events and issues throughout American History. **Clarifications:** Examples may include, but are not limited to, historiography.
SS.8.A.1.7:	View historic events through the eyes of those who were there as shown in their art, writings, music, and artifacts.
SS.8.A.2.1:	Compare the relationships among the British, French, Spanish, and Dutch in their struggle for colonization of North America. **Clarifications:** This benchmark implies a study of the ways that economic, political, cultural, and religious competition between these Atlantic powers shaped early colonial America.
SS.8.A.2.2:	Compare the characteristics of the New England, Middle, and Southern colonies. **Clarifications:** Examples may include, but are not limited to, colonial governments, geographic influences, occupations, religion, education, settlement patterns, and social patterns.
SS.8.A.2.3:	Differentiate economic systems of New England, Middle and Southern colonies including indentured servants and slaves as labor sources. **Clarifications:** Examples may include, but are not limited to, subsistence farming, cash crop farming, and maritime industries.
SS.8.A.2.4:	Identify the impact of key colonial figures on the economic, political, and social development of the colonies. **Clarifications:** Examples may include, but are not limited to, John Smith, William Penn, Roger Williams, Anne Hutchinson, John Winthrop, Jonathan Edwards, William Bradford, Nathaniel Bacon, John Peter Zenger, and Lord Calvert.
SS.8.A.2.5:	Discuss the impact of colonial settlement on Native American populations. **Clarifications:** Examples may include, but are not limited to, war, disease, loss of land, westward displacement of tribes causing increased conflict between tribes, and dependence on trade for Western goods, including guns.
SS.8.A.2.6:	Examine the causes, course, and consequences of the French and Indian War. **Clarifications:** Examples may include, but are not limited to, ongoing conflict between France and England, territorial disputes, trade competition, Ft. Duquesne, Ft. Quebec, Treaty of Paris, heavy British debt.
SS.8.A.2.7:	Describe the contributions of key groups (Africans, Native Americans, women, and children) to the society and culture of colonial America.
SS.8.A.3.1:	Explain the consequences of the French and Indian War in British policies for the American colonies from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, Proclamation of 1763, Sugar Act, Quartering Act, Stamp Act, Declaratory Act, Townshend Acts, Tea Act, Quebec Act, and Coercive Acts.
SS.8.A.3.2:	Explain American colonial reaction to British policy from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, written protests, boycotts, unrest leading to the Boston Massacre, Boston Tea Party, First Continental Congress, Stamp Act Congress, Committees of Correspondence.
SS.8.A.3.3:	Recognize the contributions of the Founding Fathers (John Adams, Sam Adams, Benjamin Franklin, John Hancock, Alexander Hamilton, Thomas Jefferson, James Madison, George Mason, George Washington) during American Revolutionary efforts. **Clarifications:** Examples may also include, but are not limited to, Thomas Paine, John Jay, Peter Salem.

SS.8.A.3.4:	Examine the contributions of influential groups to both the American and British war efforts during the American Revolutionary War and their effects on the outcome of the war. **Clarifications:** Examples may include, but are not limited to, foreign alliances, freedmen, Native Americans, slaves, women, soldiers, Hessians.
SS.8.A.3.5:	Describe the influence of individuals on social and political developments during the Revolutionary era. **Clarifications:** Examples may include, but are not limited to, James Otis, Mercy Otis Warren, Abigail Adams, Benjamin Banneker, Lemuel Haynes, Phyllis Wheatley.
SS.8.A.3.6:	Examine the causes, course, and consequences of the American Revolution. **Clarifications:** Examples may include, but are not limited to, Battles of Lexington and Concord, Common Sense, Second Continental Congress, Battle of Bunker Hill, Battle of Cowpens, Battle of Trenton, Olive Branch Petition, Declaration of Independence, winter at Valley Forge, Battles of Saratoga and Yorktown, Treaty of Paris.
SS.8.A.3.7:	Examine the structure, content, and consequences of the Declaration of Independence.
SS.8.A.3.8:	Examine individuals and groups that affected political and social motivations during the American Revolution. **Clarifications:** Examples may include, but are not limited to, Ethan Allen and the Green Mountain Boys, the Committees of Correspondence, Sons of Liberty, Daughters of Liberty, the Black Regiment (in churches), Patrick Henry, Patriots, Loyalists, individual colonial militias, and undecideds.
SS.8.A.3.9:	Evaluate the structure, strengths, and weaknesses of the Articles of Confederation and its aspects that led to the Constitutional Convention.
SS.8.A.3.10:	Examine the course and consequences of the Constitutional Convention (New Jersey Plan, Virginia Plan, Great Compromise, Three-Fifths Compromise, compromises regarding taxation and slave trade, Electoral College, state vs. federal power, empowering a president).
SS.8.A.3.11:	Analyze support and opposition (Federalists, Federalist Papers, AntiFederalists, Bill of Rights) to ratification of the U.S. Constitution.
SS.8.A.3.12:	Examine the influences of George Washington's presidency in the formation of the new nation. **Clarifications:** Examples may include, but are not limited to, personal motivations, military experience, political influence, establishing Washington, D.C. as the nation's capital, rise of the party system, setting of precedents (e.g., the Cabinet), Farewell Address.
SS.8.A.3.13:	Explain major domestic and international economic, military, political, and socio-cultural events of John Adams's presidency. **Clarifications:** Examples may include, but aren ot limited to, XYZ Affairs, Alien and Sedition Acts, Land Act of 1800, the quasi-war, the Midnight Judges.
SS.8.A.3.14:	Explain major domestic and international economic, military, political, and socio-cultural events of Thomas Jefferson's presidency. **Clarifications:** Examples may include, but are not limited to, Election of 1800, birth of political parties, Marbury v. Madison, judicial review, Jefferson's First Inaugural Address, Judiciary Act of 1801, Louisiana Purchase, Barbary War, Lewis and Clark Expedition, Hamilton and Burr conflict/duel, Embargo of 1807.
SS.8.A.3.15:	Examine this time period (1763-1815) from the perspective of historically under-represented groups (children, indentured servants, Native Americans, slaves, women, working class).
SS.8.A.3.16:	Examine key events in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Treaty of Paris, British rule, Second Spanish Period.
SS.8.A.4.1:	Examine the causes, course, and consequences of United States westward expansion and its growing diplomatic assertiveness (War of 1812, Convention of 1818, Adams-Onis Treaty, Missouri Compromise, Monroe Doctrine, Trail of Tears, Texas annexation, Manifest Destiny, Oregon Territory, Mexican American War/Mexican Cession, California Gold Rush, Compromise of 1850, Kansas Nebraska Act, Gadsden Purchase).
SS.8.A.4.2:	Describe the debate surrounding the spread of slavery into western territories and Florida. **Clarifications:** Examples may include, but are not limited to, abolitionist movement, Ft. Mose, Missouri Compromise, Bleeding Kansas, Kansas-Nebraska Act, Compromise of 1850.
SS.8.A.4.3:	Examine the experiences and perspectives of significant individuals and groups during this era of American History. **Clarifications:** Examples may include, but are not limited to, Lewis and Clark, Sacajawea, York, Pike, Native Americans, Buffalo Soldiers, Mexicanos, Chinese immigrants, Irish immigrants, children, slaves, women, Alexis de Tocqueville, political parties.
SS.8.A.4.4:	Discuss the impact of westward expansion on cultural practices and migration patterns of Native American and African slave populations.
SS.8.A.4.5:	Explain the causes, course, and consequences of the 19th century transportation revolution on the growth of the nation's economy. **Clarifications:** Examples may include, but are not limited to, roads, canals, bridges, steamboats, railroads.
SS.8.A.4.6:	Identify technological improvements (inventions/inventors) that contributed to industrial growth. **Clarifications:** Examples may include, but are not limited to, Fitch/steamboat, Slater/textile mill machinery, Whitney/cotton gin, interchangeable parts, McCoy/industrial lubrication, Fulton/commercial steamboat, Lowell/ mechanized cotton mill, Isaac Singer/sewing machine.
SS.8.A.4.7:	Explain the causes, course, and consequences (industrial growth, subsequent effect on children and women) of New England's textile industry.
SS.8.A.4.8:	Describe the influence of individuals on social and political developments of this era in American History. **Clarifications:** Examples may include, but are not limited to, Daniel Boone, Tecumseh, Black Hawk, John Marshall, James Madison, Dolly Madison, Andrew Jackson, John C. Calhoun, Henry Clay, Daniel Webster, James Polk, Susan B. Anthony, Elizabeth Cady Stanton, William Lloyd Garrison, Frederick Douglass, Horace Mann, Dorothea Dix, Lucretia Mott, Sojourner Truth, Harriet Tubman.
SS.8.A.4.9:	Analyze the causes, course and consequences of the Second Great Awakening on social reform movements. **Clarifications:** Examples may include, but are not limited to, abolition, women's rights, temperance, education, prison and mental health reform, Charles

	Grandison Finney, the Beecher family.
SS.8.A.4.10:	Analyze the impact of technological advancements on the agricultural economy and slave labor. **Clarifications:** Examples may include, but are not limited to, cotton gin, steel plow, rapid growth of slave trade.
SS.8.A.4.11:	Examine the aspects of slave culture including plantation life, resistance efforts, and the role of the slaves' spiritual system.
SS.8.A.4.12:	Examine the effects of the 1804 Haitian Revolution on the United States acquisition of the Louisiana Territory.
SS.8.A.4.13:	Explain the consequences of landmark Supreme Court decisions (McCulloch v. Maryland [1819], Gibbons v. Odgen [1824], Cherokee Nation v. Georgia [1831], and Worcester v. Georgia [1832]) significant to this era of American history.
SS.8.A.4.14:	Examine the causes, course, and consequences of the women's suffrage movement (1848 Seneca Falls Convention, Declaration of Sentiments).
SS.8.A.4.15:	Examine the causes, course, and consequences of literature movements (Transcendentalism) significant to this era of American history.
SS.8.A.4.16:	Identify key ideas and influences of Jacksonian democracy. **Clarifications:** Examples may include, but are not limited to, political participation, political parties, constitutional government, spoils system, National Bank veto, Maysville Road veto, tariff battles, Indian Removal Act, nullification crisis.
SS.8.A.4.17:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Andrew Jackson's military expeditions to end Indian uprisings, developing relationships between the Seminole and runaway slaves, Adams-Onis Treaty, Florida becoming a United States territory, combining former East and West Floridas, establishing first state capital, Florida's constitution, Florida's admittance to the Union as 27th state.
SS.8.A.4.18:	Examine the experiences and perspectives of different ethnic, national, and religious groups in Florida, explaining their contributions to Florida's and America's society and culture during the Territorial Period. **Clarifications:** Examples may include, but are not limited to, Osceola, white settlers, U.S. troops, Black Seminoles, southern plantation and slave owners, Seminole Wars, Treaty of Moultrie Creek, Seminole relocation, Chief Billy Bowlegs, Florida Crackers.
SS.8.A.5.1:	Explain the causes, course, and consequence of the Civil War (sectionalism, slavery, states' rights, balance of power in the Senate).
SS.8.A.5.2:	Analyze the role of slavery in the development of sectional conflict. **Clarifications:** Examples may include, but are not limited to, Abolition Movement, Nat Turner's Rebellion, Black Codes, Missouri Compromise, Compromise of 1850, Uncle Tom's Cabin, Kansas-Nebraska Act, Dred Scott v. Sandford, Lincoln-Douglas Debates, raid on Harper's Ferry, Underground Railroad, Presidential Election of 1860, Southern secession.
SS.8.A.5.3:	Explain major domestic and international economic, military, political, and socio-cultural events of Abraham Lincoln's presidency. **Clarifications:** Examples may include, but aren ot limited to, sectionalism, states' rights, slavery, Civil War, attempts at foreign alliances, Emancipation Proclamation, Gettysburg Address, suspension of habeas corpus, First and Second Inaugural Addresses.
SS.8.A.5.4:	Identify the division (Confederate and Union States, Border states, western territories) of the United States at the outbreak of the Civil War.
SS.8.A.5.5:	Compare Union and Confederate strengths and weaknesses. **Clarifications:** Examples may include, but aren ot limited to, technology, resources, alliances, geography, military leaders-Lincoln, Davis, Grant, Lee, Jackson, Sherman.
SS.8.A.5.6:	Compare significant Civil War battles and events and their effects on civilian populations. **Clarifications:** Examples may include, but are not limited to, Fort Sumter, Bull Run, Monitor v. Merrimack, Antietam, Vicksburg, Gettysburg, Emancipation Proclamation, Sherman's March, Lee's surrender at Appomattox.
SS.8.A.5.7:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, slavery, influential planters, Florida's secession and Confederate membership, women, children, pioneer environment, Union occupation, Battle of Olustee and role of 54th Massachusetts regiment, Battle at Natural Bridge.
SS.8.A.5.8:	Explain and evaluate the policies, practices, and consequences of Reconstruction (presidential and congressional reconstruction, Johnson's impeachment, Civil Rights Act of 1866, the 13th, 14th, and 15th Amendments, opposition of Southern whites to Reconstruction, accomplishments and failures of Radical Reconstruction, presidential election of 1876, end of Reconstruction, rise of Jim Crow laws, rise of Ku Klux Klan).
SS.8.C.1.1:	Identify the constitutional provisions for establishing citizenship.
SS.8.C.1.2:	Compare views of self-government and the rights and responsibilities of citizens held by Patriots, Loyalists, and other colonists.
SS.8.C.1.3:	Recognize the role of civic virtue in the lives of citizens and leaders from the colonial period through Reconstruction.
SS.8.C.1.4:	Identify the evolving forms of civic and political participation from the colonial period through Reconstruction.
SS.8.C.1.5:	Apply the rights and principles contained in the Constitution and Bill of Rights to the lives of citizens today.
SS.8.C.1.6:	Evaluate how amendments to the Constitution have expanded voting rights from our nation's early history to present day.
SS.8.C.2.1:	Evaluate and compare the essential ideals and principles of American constitutional government expressed in primary sources from the colonial period to Reconstruction.
SS.8.E.1.1:	Examine motivating economic factors that influenced the development of the United States economy over time including scarcity, supply and demand, opportunity costs, incentives, profits, and entrepreneurial aspects. **Clarifications:** Examples areTriangular Trade, colonial development - New England, Middle, and Southern colonies - Revolutionary War, Manifest Destiny, compromises over slavery issues, the Civil War, Reconstruction.
SS.8.E.2.1:	Analyze contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States economy.
SS.8.E.2.2:	Explain the economic impact of government policies. **Clarifications:**

	Examples are mercantilism, colonial establishment, Articles of Confederation, Constitution, compromises over slavery.
SS.8.E.2.3:	Assess the role of Africans and other minority groups in the economic development of the United States.
SS.8.E.3.1:	Evaluate domestic and international interdependence. **Clarifications:** Examples are triangular trade routes and regional exchange of resources.
SS.8.G.1.1:	Use maps to explain physical and cultural attributes of major regions throughout American history.
SS.8.G.1.2:	Use appropriate geographic tools and terms to identify and describe significant places and regions in American history.
SS.8.G.2.1:	Identify the physical elements and the human elements that define and differentiate regions as relevant to American history. **Clarifications:** Examples of physical elements are climate, terrain, resources. Examples of human elements are religion, government, economy, language, demography.
SS.8.G.2.2:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the United States that have had critical economic, physical, or political ramifications. **Clarifications:** Examples are cataclysmic natural disasters, shipwrecks.
SS.8.G.2.3:	Use geographic terms and tools to analyze case studies of how selected regions of the United States have changed over time.
SS.8.G.3.1:	Locate and describe in geographic terms the major ecosystems of the United States.
SS.8.G.3.2:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in the United States and Florida over time.
SS.8.G.4.1:	Interpret population growth and other demographic data for any given place in the United States throughout its history.
SS.8.G.4.2:	Use geographic terms and tools to analyze the effects throughout American history of migration to and within the United States, both on the place of origin and destination.
SS.8.G.4.3:	Use geographic terms and tools to explain cultural diffusion throughout the United States as it expanded its territory.
SS.8.G.4.4:	Interpret databases, case studies, and maps to describe the role that regions play in influencing trade, migration patterns, and cultural/political interaction in the United States throughout time.
SS.8.G.4.5:	Use geographic terms and tools to analyze case studies of the development, growth, and changing nature of cities and urban centers in the United States over time.
SS.8.G.4.6:	Use political maps to describe changes in boundaries and governance throughout American history.
SS.8.G.5.1:	Describe human dependence on the physical environment and natural resources to satisfy basic needs in local environments in the United States.
SS.8.G.5.2:	Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history. **Clarifications:** Examples are deforestation, urbanization, agriculture.
SS.8.G.6.1:	Use appropriate maps and other graphic representations to analyze geographic problems and changes over time throughout American history.
SS.8.G.6.2:	Illustrate places and events in U.S. history through the use of narratives and graphic representations. **Clarifications:** Examples are maps, graphs, tables.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
LAFS.68.RH.1.3:	Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).
LAFS.68.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
LAFS.68.RH.2.5:	Describe how a text presents information (e.g., sequentially, comparatively, causally).
LAFS.68.RH.2.6:	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
LAFS.68.RH.3.7:	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots. **Standard Relation to Course: Supporting**
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.8.C.2.4:	Critique school and public health policies that influence health promotion and disease prevention. **Clarifications:** Speed-limit laws, immunization requirements, universal precautions, zero tolerance, report bullying, and cell phone/texting laws.

General Course Information and Notes

GENERAL NOTES

Primary content emphasis for this course pertains to the study of American history from the Exploration and Colonization period to the Reconstruction Period following the Civil War. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to explore those fundamental ideas and events which occurred after Reconstruction.

Mathematics Benchmark Guidance - Instruction of U.S. History should include opportunities for students to interpret and create representations of historical events using mathematical tables, charts, and graphs.

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

Special Notes:

Additional content that may be contained in the NAEP Grade 8 United States History assessment includes material from all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assets/documents/publications/frameworks/historyframework.pdf

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.

2. Making close reading and rereading of texts central to lessons.

3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.

4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To

access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

GENERAL INFORMATION

Course Number: 2100015

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >
Abbreviated Title: M/J US HIST&CAR PLAN
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Social Science (Grades 5-9)
Social Science (Grades 6-12)
Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

M/J United States History Advanced (#2100020) 2018 - 2022

(current)

Course Standards

Name	Description
SS.8.A.1.1:	Provide supporting details for an answer from text, interview for oral history, check validity of information from research/text, and identify strong vs. weak arguments. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigage, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf.
SS.8.A.1.2:	Analyze charts, graphs, maps, photographs and timelines; analyze political cartoons; determine cause and effect.
SS.8.A.1.3:	Analyze current events relevant to American History topics through a variety of electronic and print media resources. **Clarifications:** Examples may include, but are not limited to, articles, editorials, journals, periodicals, reports, websites, videos, and podcasts.
SS.8.A.1.4:	Differentiate fact from opinion, utilize appropriate historical research and fiction/nonfiction support materials.
SS.8.A.1.5:	Identify, within both primary and secondary sources, the author, audience, format, and purpose of significant historical documents. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.8.A.1.6:	Compare interpretations of key events and issues throughout American History. **Clarifications:** Examples may include, but are not limited to, historiography.
SS.8.A.1.7:	View historic events through the eyes of those who were there as shown in their art, writings, music, and artifacts.
SS.8.A.2.1:	Compare the relationships among the British, French, Spanish, and Dutch in their struggle for colonization of North America. **Clarifications:** This benchmark implies a study of the ways that economic, political, cultural, and religious competition between these Atlantic powers shaped early colonial America.
SS.8.A.2.2:	Compare the characteristics of the New England, Middle, and Southern colonies. **Clarifications:** Examples may include, but are not limited to, colonial governments, geographic influences, occupations, religion, education, settlement patterns, and social patterns.
SS.8.A.2.3:	Differentiate economic systems of New England, Middle and Southern colonies including indentured servants and slaves as labor sources. **Clarifications:** Examples may include, but are not limited to, subsistence farming, cash crop farming, and maritime industries.
SS.8.A.2.4:	Identify the impact of key colonial figures on the economic, political, and social development of the colonies. **Clarifications:** Examples may include, but are not limited to, John Smith, William Penn, Roger Williams, Anne Hutchinson, John Winthrop, Jonathan Edwards, William Bradford, Nathaniel Bacon, John Peter Zenger, and Lord Calvert.
SS.8.A.2.5:	Discuss the impact of colonial settlement on Native American populations. **Clarifications:** Examples may include, but are not limited to, war, disease, loss of land, westward displacement of tribes causing increased conflict between tribes, and dependence on trade for Western goods, including guns.
SS.8.A.2.6:	Examine the causes, course, and consequences of the French and Indian War. **Clarifications:** Examples may include, but are not limited to, ongoing conflict between France and England, territorial disputes, trade competition, Ft. Duquesne, Ft. Quebec, Treaty of Paris, heavy British debt.
SS.8.A.2.7:	Describe the contributions of key groups (Africans, Native Americans, women, and children) to the society and culture of colonial America.
SS.8.A.3.1:	Explain the consequences of the French and Indian War in British policies for the American colonies from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, Proclamation of 1763, Sugar Act, Quartering Act, Stamp Act, Declaratory Act, Townshend Acts, Tea Act, Quebec Act, and Coercive Acts.
SS.8.A.3.2:	Explain American colonial reaction to British policy from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, written protests, boycotts, unrest leading to the Boston Massacre, Boston Tea Party, First Continental Congress, Stamp Act Congress, Committees of Correspondence.
SS.8.A.3.3:	Recognize the contributions of the Founding Fathers (John Adams, Sam Adams, Benjamin Franklin, John Hancock, Alexander Hamilton, Thomas Jefferson, James Madison, George Mason, George Washington) during American Revolutionary efforts. **Clarifications:**

	Examples may also include, but are not limited to, Thomas Paine, John Jay, Peter Salem.
SS.8.A.3.4:	Examine the contributions of influential groups to both the American and British war efforts during the American Revolutionary War and their effects on the outcome of the war. **Clarifications:** Examples may include, but are not limited to, foreign alliances, freedmen, Native Americans, slaves, women, soldiers, Hessians.
SS.8.A.3.5:	Describe the influence of individuals on social and political developments during the Revolutionary era. **Clarifications:** Examples may include, but are not limited to, James Otis, Mercy Otis Warren, Abigail Adams, Benjamin Banneker, Lemuel Haynes, Phyllis Wheatley.
SS.8.A.3.6:	Examine the causes, course, and consequences of the American Revolution. **Clarifications:** Examples may include, but are not limited to, Battles of Lexington and Concord, Common Sense, Second Continental Congress, Battle of Bunker Hill, Battle of Cowpens, Battle of Trenton, Olive Branch Petition, Declaration of Independence, winter at Valley Forge, Battles of Saratoga and Yorktown, Treaty of Paris.
SS.8.A.3.7:	Examine the structure, content, and consequences of the Declaration of Independence.
SS.8.A.3.8:	Examine individuals and groups that affected political and social motivations during the American Revolution. **Clarifications:** Examples may include, but are not limited to, Ethan Allen and the Green Mountain Boys, the Committees of Correspondence, Sons of Liberty, Daughters of Liberty, the Black Regiment (in churches), Patrick Henry, Patriots, Loyalists, individual colonial militias, and undecideds.
SS.8.A.3.9:	Evaluate the structure, strengths, and weaknesses of the Articles of Confederation and its aspects that led to the Constitutional Convention.
SS.8.A.3.10:	Examine the course and consequences of the Constitutional Convention (New Jersey Plan, Virginia Plan, Great Compromise, Three-Fifths Compromise, compromises regarding taxation and slave trade, Electoral College, state vs. federal power, empowering a president).
SS.8.A.3.11:	Analyze support and opposition (Federalists, Federalist Papers, AntiFederalists, Bill of Rights) to ratification of the U.S. Constitution.
SS.8.A.3.12:	Examine the influences of George Washington's presidency in the formation of the new nation. **Clarifications:** Examples may include, but are not limited to, personal motivations, military experience, political influence, establishing Washington, D.C. as the nation's capital, rise of the party system, setting of precedents (e.g., the Cabinet), Farewell Address.
SS.8.A.3.13:	Explain major domestic and international economic, military, political, and socio-cultural events of John Adams's presidency. **Clarifications:** Examples may include, but aren ot limited to, XYZ Affairs, Alien and Sedition Acts, Land Act of 1800, the quasi-war, the Midnight Judges.
SS.8.A.3.14:	Explain major domestic and international economic, military, political, and socio-cultural events of Thomas Jefferson's presidency. **Clarifications:** Examples may include, but are not limited to, Election of 1800, birth of political parties, Marbury v. Madison, judicial review, Jefferson's First Inaugural Address, Judiciary Act of 1801, Louisiana Purchase, Barbary War, Lewis and Clark Expedition, Hamilton and Burr conflict/duel, Embargo of 1807.
SS.8.A.3.15:	Examine this time period (1763-1815) from the perspective of historically under-represented groups (children, indentured servants, Native Americans, slaves, women, working class).
SS.8.A.3.16:	Examine key events in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Treaty of Paris, British rule, Second Spanish Period.
SS.8.A.4.1:	Examine the causes, course, and consequences of United States westward expansion and its growing diplomatic assertiveness (War of 1812, Convention of 1818, Adams-Onis Treaty, Missouri Compromise, Monroe Doctrine, Trail of Tears, Texas annexation, Manifest Destiny, Oregon Territory, Mexican American War/Mexican Cession, California Gold Rush, Compromise of 1850, Kansas Nebraska Act, Gadsden Purchase).
SS.8.A.4.2:	Describe the debate surrounding the spread of slavery into western territories and Florida. **Clarifications:** Examples may include, but are not limited to, abolitionist movement, Ft. Mose, Missouri Compromise, Bleeding Kansas, Kansas-Nebraska Act, Compromise of 1850.
SS.8.A.4.3:	Examine the experiences and perspectives of significant individuals and groups during this era of American History. **Clarifications:** Examples may include, but are not limited to, Lewis and Clark, Sacajawea, York, Pike, Native Americans, Buffalo Soldiers, Mexicanos, Chinese immigrants, Irish immigrants, children, slaves, women, Alexis de Tocqueville, political parties.
SS.8.A.4.4:	Discuss the impact of westward expansion on cultural practices and migration patterns of Native American and African slave populations.
SS.8.A.4.5:	Explain the causes, course, and consequences of the 19th century transportation revolution on the growth of the nation's economy. **Clarifications:** Examples may include, but are not limited to, roads, canals, bridges, steamboats, railroads.
SS.8.A.4.6:	Identify technological improvements (inventions/inventors) that contributed to industrial growth. **Clarifications:** Examples may include, but are not limited to, Fitch/steamboat, Slater/textile mill machinery, Whitney/cotton gin, interchangeable parts, McCoy/industrial lubrication, Fulton/commercial steamboat, Lowell/ mechanized cotton mill, Isaac Singer/sewing machine.
SS.8.A.4.7:	Explain the causes, course, and consequences (industrial growth, subsequent effect on children and women) of New England's textile industry.
SS.8.A.4.8:	Describe the influence of individuals on social and political developments of this era in American History. **Clarifications:** Examples may include, but are not limited to, Daniel Boone, Tecumseh, Black Hawk, John Marshall, James Madison, Dolly Madison, Andrew Jackson, John C. Calhoun, Henry Clay, Daniel Webster, James Polk, Susan B. Anthony, Elizabeth Cady Stanton, William Lloyd Garrison, Frederick Douglass, Horace Mann, Dorothea Dix, Lucretia Mott, Sojourner Truth, Harriet Tubman.
	Analyze the causes, course and consequences of the Second Great Awakening on social reform movements.

SS.8.A.4.9:	**Clarifications:** Examples may include, but are not limited to, abolition, women's rights, temperance, education, prison and mental health reform, Charles Grandison Finney, the Beecher family.
SS.8.A.4.10:	Analyze the impact of technological advancements on the agricultural economy and slave labor. **Clarifications:** Examples may include, but are not limited to, cotton gin, steel plow, rapid growth of slave trade.
SS.8.A.4.11:	Examine the aspects of slave culture including plantation life, resistance efforts, and the role of the slaves' spiritual system.
SS.8.A.4.12:	Examine the effects of the 1804 Haitian Revolution on the United States acquisition of the Louisiana Territory.
SS.8.A.4.13:	Explain the consequences of landmark Supreme Court decisions (McCulloch v. Maryland [1819], Gibbons v. Odgen [1824], Cherokee Nation v. Georgia [1831], and Worcester v. Georgia [1832]) significant to this era of American history.
SS.8.A.4.14:	Examine the causes, course, and consequences of the women's suffrage movement (1848 Seneca Falls Convention, Declaration of Sentiments).
SS.8.A.4.15:	Examine the causes, course, and consequences of literature movements (Transcendentalism) significant to this era of American history.
SS.8.A.4.16:	Identify key ideas and influences of Jacksonian democracy. **Clarifications:** Examples may include, but are not limited to, political participation, political parties, constitutional government, spoils system, National Bank veto, Maysville Road veto, tariff battles, Indian Removal Act, nullification crisis.
SS.8.A.4.17:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Andrew Jackson's military expeditions to end Indian uprisings, developing relationships between the Seminole and runaway slaves, Adams-Onis Treaty, Florida becoming a United States territory, combining former East and West Floridas, establishing first state capital, Florida's constitution, Florida's admittance to the Union as 27th state.
SS.8.A.4.18:	Examine the experiences and perspectives of different ethnic, national, and religious groups in Florida, explaining their contributions to Florida's and America's society and culture during the Territorial Period. **Clarifications:** Examples may include, but are not limited to, Osceola, white settlers, U.S. troops, Black Seminoles, southern plantation and slave owners, Seminole Wars, Treaty of Moultrie Creek, Seminole relocation, Chief Billy Bowlegs, Florida Crackers.
SS.8.A.5.1:	Explain the causes, course, and consequence of the Civil War (sectionalism, slavery, states' rights, balance of power in the Senate).
SS.8.A.5.2:	Analyze the role of slavery in the development of sectional conflict. **Clarifications:** Examples may include, but are not limited to, Abolition Movement, Nat Turner's Rebellion, Black Codes, Missouri Compromise, Compromise of 1850, Uncle Tom's Cabin, Kansas-Nebraska Act, Dred Scott v. Sandford, Lincoln-Douglas Debates, raid on Harper's Ferry, Underground Railroad, Presidential Election of 1860, Southern secession.
SS.8.A.5.3:	Explain major domestic and international economic, military, political, and socio-cultural events of Abraham Lincoln's presidency. **Clarifications:** Examples may include, but aren ot limited to, sectionalism, states' rights, slavery, Civil War, attempts at foreign alliances, Emancipation Proclamation, Gettysburg Address, suspension of habeas corpus, First and Second Inaugural Addresses.
SS.8.A.5.4:	Identify the division (Confederate and Union States, Border states, western territories) of the United States at the outbreak of the Civil War.
SS.8.A.5.5:	Compare Union and Confederate strengths and weaknesses. **Clarifications:** Examples may include, but aren ot limited to, technology, resources, alliances, geography, military leaders-Lincoln, Davis, Grant, Lee, Jackson, Sherman.
SS.8.A.5.6:	Compare significant Civil War battles and events and their effects on civilian populations. **Clarifications:** Examples may include, but are not limited to, Fort Sumter, Bull Run, Monitor v. Merrimack, Antietam, Vicksburg, Gettysburg, Emancipation Proclamation, Sherman's March, Lee's surrender at Appomattox.
SS.8.A.5.7:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, slavery, influential planters, Florida's secession and Confederate membership, women, children, pioneer environment, Union occupation, Battle of Olustee and role of 54th Massachusetts regiment, Battle at Natural Bridge.
SS.8.A.5.8:	Explain and evaluate the policies, practices, and consequences of Reconstruction (presidential and congressional reconstruction, Johnson's impeachment, Civil Rights Act of 1866, the 13th, 14th, and 15th Amendments, opposition of Southern whites to Reconstruction, accomplishments and failures of Radical Reconstruction, presidential election of 1876, end of Reconstruction, rise of Jim Crow laws, rise of Ku Klux Klan).
SS.8.C.1.1:	Identify the constitutional provisions for establishing citizenship.
SS.8.C.1.2:	Compare views of self-government and the rights and responsibilities of citizens held by Patriots, Loyalists, and other colonists.
SS.8.C.1.3:	Recognize the role of civic virtue in the lives of citizens and leaders from the colonial period through Reconstruction.
SS.8.C.1.4:	Identify the evolving forms of civic and political participation from the colonial period through Reconstruction.
SS.8.C.1.5:	Apply the rights and principles contained in the Constitution and Bill of Rights to the lives of citizens today.
SS.8.C.1.6:	Evaluate how amendments to the Constitution have expanded voting rights from our nation's early history to present day.
SS.8.C.2.1:	Evaluate and compare the essential ideals and principles of American constitutional government expressed in primary sources from the colonial period to Reconstruction.
SS.8.E.1.1:	Examine motivating economic factors that influenced the development of the United States economy over time including scarcity, supply and demand, opportunity costs, incentives, profits, and entrepreneurial aspects. **Clarifications:** Examples areTriangular Trade, colonial development - New England, Middle, and Southern colonies - Revolutionary War, Manifest Destiny, compromises over slavery issues, the Civil War, Reconstruction.
SS.8.E.2.1:	Analyze contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States economy.

SS.8.E.2.2:	Explain the economic impact of government policies. **Clarifications:** Examples are mercantilism, colonial establishment, Articles of Confederation, Constitution, compromises over slavery.
SS.8.E.2.3:	Assess the role of Africans and other minority groups in the economic development of the United States.
SS.8.E.3.1:	Evaluate domestic and international interdependence. **Clarifications:** Examples are triangular trade routes and regional exchange of resources.
SS.8.G.1.1:	Use maps to explain physical and cultural attributes of major regions throughout American history.
SS.8.G.1.2:	Use appropriate geographic tools and terms to identify and describe significant places and regions in American history.
SS.8.G.2.1:	Identify the physical elements and the human elements that define and differentiate regions as relevant to American history. **Clarifications:** Examples of physical elements are climate, terrain, resources. Examples of human elements are religion, government, economy, language, demography.
SS.8.G.2.2:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the United States that have had critical economic, physical, or political ramifications. **Clarifications:** Examples are cataclysmic natural disasters, shipwrecks.
SS.8.G.2.3:	Use geographic terms and tools to analyze case studies of how selected regions of the United States have changed over time.
SS.8.G.3.1:	Locate and describe in geographic terms the major ecosystems of the United States.
SS.8.G.3.2:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in the United States and Florida over time.
SS.8.G.4.1:	Interpret population growth and other demographic data for any given place in the United States throughout its history.
SS.8.G.4.2:	Use geographic terms and tools to analyze the effects throughout American history of migration to and within the United States, both on the place of origin and destination.
SS.8.G.4.3:	Use geographic terms and tools to explain cultural diffusion throughout the United States as it expanded its territory.
SS.8.G.4.4:	Interpret databases, case studies, and maps to describe the role that regions play in influencing trade, migration patterns, and cultural/political interaction in the United States throughout time.
SS.8.G.4.5:	Use geographic terms and tools to analyze case studies of the development, growth, and changing nature of cities and urban centers in the United States over time.
SS.8.G.4.6:	Use political maps to describe changes in boundaries and governance throughout American history.
SS.8.G.5.1:	Describe human dependence on the physical environment and natural resources to satisfy basic needs in local environments in the United States.
SS.8.G.5.2:	Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history. **Clarifications:** Examples are deforestation, urbanization, agriculture.
SS.8.G.6.1:	Use appropriate maps and other graphic representations to analyze geographic problems and changes over time throughout American history.
SS.8.G.6.2:	Illustrate places and events in U.S. history through the use of narratives and graphic representations. **Clarifications:** Examples are maps, graphs, tables.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
LAFS.68.RH.1.3:	Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).
LAFS.68.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
LAFS.68.RH.2.5:	Describe how a text presents information (e.g., sequentially, comparatively, causally).
LAFS.68.RH.2.6:	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
LAFS.68.RH.3.7:	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots. **Standard Relation to Course: Supporting**
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently,

	express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.8.C.2.4:	Critique school and public health policies that influence health promotion and disease prevention. **Clarifications:** Speed-limit laws, immunization requirements, universal precautions, zero tolerance, report bullying, and cell phone/texting laws.

General Course Information and Notes

GENERAL NOTES

Primary content emphasis for this course pertains to the study of American history from the Exploration and Colonization period to the Reconstruction Period following the Civil War. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to explore those fundamental ideas and events which occurred after Reconstruction.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance - Instruction of U.S. History should include opportunities for students to interpret and create representations of historical events using mathematical tables, charts, and graphs.

Special Notes: Additional content that may be contained in the NAEP Grade 8 United States History assessment includes materialfrom all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assets/documents/publications/frameworks/historyframework.pdf

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.

2. Making close reading and rereading of texts central to lessons.

3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.

4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

QUALIFICATIONS

added elem ed cert options, per commissioner approval on 1/23/18

GENERAL INFORMATION

Course Number: 2100020

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: M/J US HIST ADV

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Social Science (Grades 5-9)
Social Science (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J United States History Advanced & Career Planning (#2100025) 2019 - 2022 (current)

Course Standards

Name	Description
SS.8.A.1.1:	Provide supporting details for an answer from text, interview for oral history, check validity of information from research/text, and identify strong vs. weak arguments. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigage, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf.
SS.8.A.1.2:	Analyze charts, graphs, maps, photographs and timelines; analyze political cartoons; determine cause and effect.
SS.8.A.1.3:	Analyze current events relevant to American History topics through a variety of electronic and print media resources. **Clarifications:** Examples may include, but are not limited to, articles, editorials, journals, periodicals, reports, websites, videos, and podcasts.
SS.8.A.1.4:	Differentiate fact from opinion, utilize appropriate historical research and fiction/nonfiction support materials.
SS.8.A.1.5:	Identify, within both primary and secondary sources, the author, audience, format, and purpose of significant historical documents. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.8.A.1.6:	Compare interpretations of key events and issues throughout American History. **Clarifications:** Examples may include, but are not limited to, historiography.
SS.8.A.1.7:	View historic events through the eyes of those who were there as shown in their art, writings, music, and artifacts.
SS.8.A.2.1:	Compare the relationships among the British, French, Spanish, and Dutch in their struggle for colonization of North America. **Clarifications:** This benchmark implies a study of the ways that economic, political, cultural, and religious competition between these Atlantic powers shaped early colonial America.
SS.8.A.2.2:	Compare the characteristics of the New England, Middle, and Southern colonies. **Clarifications:** Examples may include, but are not limited to, colonial governments, geographic influences, occupations, religion, education, settlement patterns, and social patterns.
SS.8.A.2.3:	Differentiate economic systems of New England, Middle and Southern colonies including indentured servants and slaves as labor sources. **Clarifications:** Examples may include, but are not limited to, subsistence farming, cash crop farming, and maritime industries.
SS.8.A.2.4:	Identify the impact of key colonial figures on the economic, political, and social development of the colonies. **Clarifications:** Examples may include, but are not limited to, John Smith, William Penn, Roger Williams, Anne Hutchinson, John Winthrop, Jonathan Edwards, William Bradford, Nathaniel Bacon, John Peter Zenger, and Lord Calvert.
SS.8.A.2.5:	Discuss the impact of colonial settlement on Native American populations. **Clarifications:** Examples may include, but are not limited to, war, disease, loss of land, westward displacement of tribes causing increased conflict between tribes, and dependence on trade for Western goods, including guns.
SS.8.A.2.6:	Examine the causes, course, and consequences of the French and Indian War. **Clarifications:** Examples may include, but are not limited to, ongoing conflict between France and England, territorial disputes, trade competition, Ft. Duquesne, Ft. Quebec, Treaty of Paris, heavy British debt.
SS.8.A.2.7:	Describe the contributions of key groups (Africans, Native Americans, women, and children) to the society and culture of colonial America.
SS.8.A.3.1:	Explain the consequences of the French and Indian War in British policies for the American colonies from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, Proclamation of 1763, Sugar Act, Quartering Act, Stamp Act, Declaratory Act, Townshend Acts, Tea Act, Quebec Act, and Coercive Acts.
SS.8.A.3.2:	Explain American colonial reaction to British policy from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, written protests, boycotts, unrest leading to the Boston Massacre, Boston Tea Party, First Continental Congress, Stamp Act Congress, Committees of Correspondence.
SS.8.A.3.3:	Recognize the contributions of the Founding Fathers (John Adams, Sam Adams, Benjamin Franklin, John Hancock, Alexander Hamilton, Thomas Jefferson, James Madison, George Mason, George Washington) during American Revolutionary efforts. **Clarifications:** Examples may also include, but are not limited to, Thomas Paine, John Jay, Peter Salem.

SS.8.A.3.4:	Examine the contributions of influential groups to both the American and British war efforts during the American Revolutionary War and their effects on the outcome of the war. **Clarifications:** Examples may include, but are not limited to, foreign alliances, freedmen, Native Americans, slaves, women, soldiers, Hessians.
SS.8.A.3.5:	Describe the influence of individuals on social and political developments during the Revolutionary era. **Clarifications:** Examples may include, but are not limited to, James Otis, Mercy Otis Warren, Abigail Adams, Benjamin Banneker, Lemuel Haynes, Phyllis Wheatley.
SS.8.A.3.6:	Examine the causes, course, and consequences of the American Revolution. **Clarifications:** Examples may include, but are not limited to, Battles of Lexington and Concord, Common Sense, Second Continental Congress, Battle of Bunker Hill, Battle of Cowpens, Battle of Trenton, Olive Branch Petition, Declaration of Independence, winter at Valley Forge, Battles of Saratoga and Yorktown, Treaty of Paris.
SS.8.A.3.7:	Examine the structure, content, and consequences of the Declaration of Independence.
SS.8.A.3.8:	Examine individuals and groups that affected political and social motivations during the American Revolution. **Clarifications:** Examples may include, but are not limited to, Ethan Allen and the Green Mountain Boys, the Committees of Correspondence, Sons of Liberty, Daughters of Liberty, the Black Regiment (in churches), Patrick Henry, Patriots, Loyalists, individual colonial militias, and undecideds.
SS.8.A.3.9:	Evaluate the structure, strengths, and weaknesses of the Articles of Confederation and its aspects that led to the Constitutional Convention.
SS.8.A.3.10:	Examine the course and consequences of the Constitutional Convention (New Jersey Plan, Virginia Plan, Great Compromise, Three-Fifths Compromise, compromises regarding taxation and slave trade, Electoral College, state vs. federal power, empowering a president).
SS.8.A.3.11:	Analyze support and opposition (Federalists, Federalist Papers, AntiFederalists, Bill of Rights) to ratification of the U.S. Constitution.
SS.8.A.3.12:	Examine the influences of George Washington's presidency in the formation of the new nation. **Clarifications:** Examples may include, but are not limited to, personal motivations, military experience, political influence, establishing Washington, D.C. as the nation's capital, rise of the party system, setting of precedents (e.g., the Cabinet), Farewell Address.
SS.8.A.3.13:	Explain major domestic and international economic, military, political, and socio-cultural events of John Adams's presidency. **Clarifications:** Examples may include, but aren ot limited to, XYZ Affairs, Alien and Sedition Acts, Land Act of 1800, the quasi-war, the Midnight Judges.
SS.8.A.3.14:	Explain major domestic and international economic, military, political, and socio-cultural events of Thomas Jefferson's presidency. **Clarifications:** Examples may include, but are not limited to, Election of 1800, birth of political parties, Marbury v. Madison, judicial review, Jefferson's First Inaugural Address, Judiciary Act of 1801, Louisiana Purchase, Barbary War, Lewis and Clark Expedition, Hamilton and Burr conflict/duel, Embargo of 1807.
SS.8.A.3.15:	Examine this time period (1763-1815) from the perspective of historically under-represented groups (children, indentured servants, Native Americans, slaves, women, working class).
SS.8.A.3.16:	Examine key events in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Treaty of Paris, British rule, Second Spanish Period.
SS.8.A.4.1:	Examine the causes, course, and consequences of United States westward expansion and its growing diplomatic assertiveness (War of 1812, Convention of 1818, Adams-Onis Treaty, Missouri Compromise, Monroe Doctrine, Trail of Tears, Texas annexation, Manifest Destiny, Oregon Territory, Mexican American War/Mexican Cession, California Gold Rush, Compromise of 1850, Kansas Nebraska Act, Gadsden Purchase).
SS.8.A.4.2:	Describe the debate surrounding the spread of slavery into western territories and Florida. **Clarifications:** Examples may include, but are not limited to, abolitionist movement, Ft. Mose, Missouri Compromise, Bleeding Kansas, Kansas-Nebraska Act, Compromise of 1850.
SS.8.A.4.3:	Examine the experiences and perspectives of significant individuals and groups during this era of American History. **Clarifications:** Examples may include, but are not limited to, Lewis and Clark, Sacajawea, York, Pike, Native Americans, Buffalo Soldiers, Mexicanos, Chinese immigrants, Irish immigrants, children, slaves, women, Alexis de Tocqueville, political parties.
SS.8.A.4.4:	Discuss the impact of westward expansion on cultural practices and migration patterns of Native American and African slave populations.
SS.8.A.4.5:	Explain the causes, course, and consequences of the 19th century transportation revolution on the growth of the nation's economy. **Clarifications:** Examples may include, but are not limited to, roads, canals, bridges, steamboats, railroads.
SS.8.A.4.6:	Identify technological improvements (inventions/inventors) that contributed to industrial growth. **Clarifications:** Examples may include, but are not limited to, Fitch/steamboat, Slater/textile mill machinery, Whitney/cotton gin, interchangeable parts, McCoy/industrial lubrication, Fulton/commercial steamboat, Lowell/ mechanized cotton mill, Isaac Singer/sewing machine.
SS.8.A.4.7:	Explain the causes, course, and consequences (industrial growth, subsequent effect on children and women) of New England's textile industry.
SS.8.A.4.8:	Describe the influence of individuals on social and political developments of this era in American History. **Clarifications:** Examples may include, but are not limited to, Daniel Boone, Tecumseh, Black Hawk, John Marshall, James Madison, Dolly Madison, Andrew Jackson, John C. Calhoun, Henry Clay, Daniel Webster, James Polk, Susan B. Anthony, Elizabeth Cady Stanton, William Lloyd Garrison, Frederick Douglass, Horace Mann, Dorothea Dix, Lucretia Mott, Sojourner Truth, Harriet Tubman.
SS.8.A.4.9:	Analyze the causes, course and consequences of the Second Great Awakening on social reform movements. **Clarifications:** Examples may include, but are not limited to, abolition, women's rights, temperance, education, prison and mental health reform, Charles

	Grandison Finney, the Beecher family.
SS.8.A.4.10:	Analyze the impact of technological advancements on the agricultural economy and slave labor. **Clarifications:** Examples may include, but are not limited to, cotton gin, steel plow, rapid growth of slave trade.
SS.8.A.4.11:	Examine the aspects of slave culture including plantation life, resistance efforts, and the role of the slaves' spiritual system.
SS.8.A.4.12:	Examine the effects of the 1804 Haitian Revolution on the United States acquisition of the Louisiana Territory.
SS.8.A.4.13:	Explain the consequences of landmark Supreme Court decisions (McCulloch v. Maryland [1819], Gibbons v. Odgen [1824], Cherokee Nation v. Georgia [1831], and Worcester v. Georgia [1832]) significant to this era of American history.
SS.8.A.4.14:	Examine the causes, course, and consequences of the women's suffrage movement (1848 Seneca Falls Convention, Declaration of Sentiments).
SS.8.A.4.15:	Examine the causes, course, and consequences of literature movements (Transcendentalism) significant to this era of American history.
SS.8.A.4.16:	Identify key ideas and influences of Jacksonian democracy. **Clarifications:** Examples may include, but are not limited to, political participation, political parties, constitutional government, spoils system, National Bank veto, Maysville Road veto, tariff battles, Indian Removal Act, nullification crisis.
SS.8.A.4.17:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Andrew Jackson's military expeditions to end Indian uprisings, developing relationships between the Seminole and runaway slaves, Adams-Onis Treaty, Florida becoming a United States territory, combining former East and West Floridas, establishing first state capital, Florida's constitution, Florida's admittance to the Union as 27th state.
SS.8.A.4.18:	Examine the experiences and perspectives of different ethnic, national, and religious groups in Florida, explaining their contributions to Florida's and America's society and culture during the Territorial Period. **Clarifications:** Examples may include, but are not limited to, Osceola, white settlers, U.S. troops, Black Seminoles, southern plantation and slave owners, Seminole Wars, Treaty of Moultrie Creek, Seminole relocation, Chief Billy Bowlegs, Florida Crackers.
SS.8.A.5.1:	Explain the causes, course, and consequence of the Civil War (sectionalism, slavery, states' rights, balance of power in the Senate).
SS.8.A.5.2:	Analyze the role of slavery in the development of sectional conflict. **Clarifications:** Examples may include, but are not limited to, Abolition Movement, Nat Turner's Rebellion, Black Codes, Missouri Compromise, Compromise of 1850, Uncle Tom's Cabin, Kansas-Nebraska Act, Dred Scott v. Sandford, Lincoln-Douglas Debates, raid on Harper's Ferry, Underground Railroad, Presidential Election of 1860, Southern secession.
SS.8.A.5.3:	Explain major domestic and international economic, military, political, and socio-cultural events of Abraham Lincoln's presidency. **Clarifications:** Examples may include, but aren ot limited to, sectionalism, states' rights, slavery, Civil War, attempts at foreign alliances, Emancipation Proclamation, Gettysburg Address, suspension of habeas corpus, First and Second Inaugural Addresses.
SS.8.A.5.4:	Identify the division (Confederate and Union States, Border states, western territories) of the United States at the outbreak of the Civil War.
SS.8.A.5.5:	Compare Union and Confederate strengths and weaknesses. **Clarifications:** Examples may include, but aren ot limited to, technology, resources, alliances, geography, military leaders-Lincoln, Davis, Grant, Lee, Jackson, Sherman.
SS.8.A.5.6:	Compare significant Civil War battles and events and their effects on civilian populations. **Clarifications:** Examples may include, but are not limited to, Fort Sumter, Bull Run, Monitor v. Merrimack, Antietam, Vicksburg, Gettysburg, Emancipation Proclamation, Sherman's March, Lee's surrender at Appomattox.
SS.8.A.5.7:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, slavery, influential planters, Florida's secession and Confederate membership, women, children, pioneer environment, Union occupation, Battle of Olustee and role of 54th Massachusetts regiment, Battle at Natural Bridge.
SS.8.A.5.8:	Explain and evaluate the policies, practices, and consequences of Reconstruction (presidential and congressional reconstruction, Johnson's impeachment, Civil Rights Act of 1866, the 13th, 14th, and 15th Amendments, opposition of Southern whites to Reconstruction, accomplishments and failures of Radical Reconstruction, presidential election of 1876, end of Reconstruction, rise of Jim Crow laws, rise of Ku Klux Klan).
SS.8.C.1.1:	Identify the constitutional provisions for establishing citizenship.
SS.8.C.1.2:	Compare views of self-government and the rights and responsibilities of citizens held by Patriots, Loyalists, and other colonists.
SS.8.C.1.3:	Recognize the role of civic virtue in the lives of citizens and leaders from the colonial period through Reconstruction.
SS.8.C.1.4:	Identify the evolving forms of civic and political participation from the colonial period through Reconstruction.
SS.8.C.1.5:	Apply the rights and principles contained in the Constitution and Bill of Rights to the lives of citizens today.
SS.8.C.1.6:	Evaluate how amendments to the Constitution have expanded voting rights from our nation's early history to present day.
SS.8.C.2.1:	Evaluate and compare the essential ideals and principles of American constitutional government expressed in primary sources from the colonial period to Reconstruction.
SS.8.E.1.1:	Examine motivating economic factors that influenced the development of the United States economy over time including scarcity, supply and demand, opportunity costs, incentives, profits, and entrepreneurial aspects. **Clarifications:** Examples areTriangular Trade, colonial development - New England, Middle, and Southern colonies - Revolutionary War, Manifest Destiny, compromises over slavery issues, the Civil War, Reconstruction.
SS.8.E.2.1:	Analyze contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States economy.
SS.8.E.2.2:	Explain the economic impact of government policies. **Clarifications:**

	Examples are mercantilism, colonial establishment, Articles of Confederation, Constitution, compromises over slavery.
SS.8.E.2.3:	Assess the role of Africans and other minority groups in the economic development of the United States.
SS.8.E.3.1:	Evaluate domestic and international interdependence. **Clarifications:** Examples are triangular trade routes and regional exchange of resources.
SS.8.G.1.1:	Use maps to explain physical and cultural attributes of major regions throughout American history.
SS.8.G.1.2:	Use appropriate geographic tools and terms to identify and describe significant places and regions in American history.
SS.8.G.2.1:	Identify the physical elements and the human elements that define and differentiate regions as relevant to American history. **Clarifications:** Examples of physical elements are climate, terrain, resources. Examples of human elements are religion, government, economy, language, demography.
SS.8.G.2.2:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the United States that have had critical economic, physical, or political ramifications. **Clarifications:** Examples are cataclysmic natural disasters, shipwrecks.
SS.8.G.2.3:	Use geographic terms and tools to analyze case studies of how selected regions of the United States have changed over time.
SS.8.G.3.1:	Locate and describe in geographic terms the major ecosystems of the United States.
SS.8.G.3.2:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in the United States and Florida over time.
SS.8.G.4.1:	Interpret population growth and other demographic data for any given place in the United States throughout its history.
SS.8.G.4.2:	Use geographic terms and tools to analyze the effects throughout American history of migration to and within the United States, both on the place of origin and destination.
SS.8.G.4.3:	Use geographic terms and tools to explain cultural diffusion throughout the United States as it expanded its territory.
SS.8.G.4.4:	Interpret databases, case studies, and maps to describe the role that regions play in influencing trade, migration patterns, and cultural/political interaction in the United States throughout time.
SS.8.G.4.5:	Use geographic terms and tools to analyze case studies of the development, growth, and changing nature of cities and urban centers in the United States over time.
SS.8.G.4.6:	Use political maps to describe changes in boundaries and governance throughout American history.
SS.8.G.5.1:	Describe human dependence on the physical environment and natural resources to satisfy basic needs in local environments in the United States.
SS.8.G.5.2:	Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history. **Clarifications:** Examples are deforestation, urbanization, agriculture.
SS.8.G.6.1:	Use appropriate maps and other graphic representations to analyze geographic problems and changes over time throughout American history.
SS.8.G.6.2:	Illustrate places and events in U.S. history through the use of narratives and graphic representations. **Clarifications:** Examples are maps, graphs, tables.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
LAFS.68.RH.1.3:	Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).
LAFS.68.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
LAFS.68.RH.2.5:	Describe how a text presents information (e.g., sequentially, comparatively, causally).
LAFS.68.RH.2.6:	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
LAFS.68.RH.3.7:	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots. **Standard Relation to Course: Supporting**
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.8.C.2.4:	Critique school and public health policies that influence health promotion and disease prevention. **Clarifications:** Speed-limit laws, immunization requirements, universal precautions, zero tolerance, report bullying, and cell phone/texting laws.

General Course Information and Notes

GENERAL NOTES

Primary content emphasis for this course pertains to the study of American history from the Exploration and Colonization period to the Reconstruction Period following the Civil War. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to explore those fundamental ideas and events which occurred after Reconstruction.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance - Instruction of U.S. History should include opportunities for students to interpret and create representations of historical events using mathematical tables, charts, and graphs.

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

Special Notes:

Additional content that may be contained in the NAEP Grade 8 United States History assessment includes material from all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assets/documents/publications/frameworks/historyframework.pdf

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.

2. Making close reading and rereading of texts central to lessons.

3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.

4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies

Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course

standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

GENERAL INFORMATION

Course Number: 2100025

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: M/J US HIS ADV & C/P

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Social Science (Grades 5-9)
Social Science (Grades 6-12)
Elementary Education (Elementary Grades 1-6)
Elementary Education (Grades K-6)

M/J Florida History (#2100030) 2015 - 2022 (current)

Course Standards

Name	Description
SS.8.A.1.1:	Provide supporting details for an answer from text, interview for oral history, check validity of information from research/text, and identify strong vs. weak arguments. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigage, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf.
SS.8.A.1.2:	Analyze charts, graphs, maps, photographs and timelines; analyze political cartoons; determine cause and effect.
SS.8.A.1.3:	Analyze current events relevant to American History topics through a variety of electronic and print media resources. **Clarifications:** Examples may include, but are not limited to, articles, editorials, journals, periodicals, reports, websites, videos, and podcasts.
SS.8.A.1.4:	Differentiate fact from opinion, utilize appropriate historical research and fiction/nonfiction support materials.
SS.8.A.1.5:	Identify, within both primary and secondary sources, the author, audience, format, and purpose of significant historical documents. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.8.A.1.6:	Compare interpretations of key events and issues throughout American History. **Clarifications:** Examples may include, but are not limited to, historiography.
SS.8.A.1.7:	View historic events through the eyes of those who were there as shown in their art, writings, music, and artifacts.
SS.8.A.2.1:	Compare the relationships among the British, French, Spanish, and Dutch in their struggle for colonization of North America. **Clarifications:** This benchmark implies a study of the ways that economic, political, cultural, and religious competition between these Atlantic powers shaped early colonial America.
SS.8.A.2.3:	Differentiate economic systems of New England, Middle and Southern colonies including indentured servants and slaves as labor sources. **Clarifications:** Examples may include, but are not limited to, subsistence farming, cash crop farming, and maritime industries.
SS.8.A.2.4:	Identify the impact of key colonial figures on the economic, political, and social development of the colonies. **Clarifications:** Examples may include, but are not limited to, John Smith, William Penn, Roger Williams, Anne Hutchinson, John Winthrop, Jonathan Edwards, William Bradford, Nathaniel Bacon, John Peter Zenger, and Lord Calvert.
SS.8.A.2.5:	Discuss the impact of colonial settlement on Native American populations. **Clarifications:** Examples may include, but are not limited to, war, disease, loss of land, westward displacement of tribes causing increased conflict between tribes, and dependence on trade for Western goods, including guns.
SS.8.A.2.7:	Describe the contributions of key groups (Africans, Native Americans, women, and children) to the society and culture of colonial America.
SS.8.A.3.15:	Examine this time period (1763-1815) from the perspective of historically under-represented groups (children, indentured servants, Native Americans, slaves, women, working class).
SS.8.A.3.16:	Examine key events in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Treaty of Paris, British rule, Second Spanish Period.
SS.8.A.4.2:	Describe the debate surrounding the spread of slavery into western territories and Florida. **Clarifications:** Examples may include, but are not limited to, abolitionist movement, Ft. Mose, Missouri Compromise, Bleeding Kansas, Kansas-Nebraska Act, Compromise of 1850.
SS.8.A.4.3:	Examine the experiences and perspectives of significant individuals and groups during this era of American History. **Clarifications:** Examples may include, but are not limited to, Lewis and Clark, Sacajawea, York, Pike, Native Americans, Buffalo Soldiers, Mexicanos, Chinese immigrants, Irish immigrants, children, slaves, women, Alexis de Tocqueville, political parties.
SS.8.A.4.4:	Discuss the impact of westward expansion on cultural practices and migration patterns of Native American and African slave populations.
SS.8.A.4.5:	Explain the causes, course, and consequences of the 19th century transportation revolution on the growth of the nation's economy. **Clarifications:** Examples may include, but are not limited to, roads, canals, bridges, steamboats, railroads.
SS.8.A.4.6:	Identify technological improvements (inventions/inventors) that contributed to industrial growth. **Clarifications:** Examples may include, but are not limited to, Fitch/steamboat, Slater/textile mill machinery, Whitney/cotton gin, interchangeable parts, McCoy/industrial lubrication, Fulton/commercial steamboat, Lowell/ mechanized cotton mill, Isaac Singer/sewing machine.
	Describe the influence of individuals on social and political developments of this era in American History.

SS.8.A.4.8:	**Clarifications:** Examples may include, but are not limited to, Daniel Boone, Tecumseh, Black Hawk, John Marshall, James Madison, Dolly Madison, Andrew Jackson, John C. Calhoun, Henry Clay, Daniel Webster, James Polk, Susan B. Anthony, Elizabeth Cady Stanton, William Lloyd Garrison, Frederick Douglass, Horace Mann, Dorothea Dix, Lucretia Mott, Sojourner Truth, Harriet Tubman.
SS.8.A.4.10:	Analyze the impact of technological advancements on the agricultural economy and slave labor. **Clarifications:** Examples may include, but are not limited to, cotton gin, steel plow, rapid growth of slave trade.
SS.8.A.4.11:	Examine the aspects of slave culture including plantation life, resistance efforts, and the role of the slaves' spiritual system.
SS.8.A.4.17:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Andrew Jackson's military expeditions to end Indian uprisings, developing relationships between the Seminole and runaway slaves, Adams-Onis Treaty, Florida becoming a United States territory, combining former East and West Floridas, establishing first state capital, Florida's constitution, Florida's admittance to the Union as 27th state.
SS.8.A.4.18:	Examine the experiences and perspectives of different ethnic, national, and religious groups in Florida, explaining their contributions to Florida's and America's society and culture during the Territorial Period. **Clarifications:** Examples may include, but are not limited to, Osceola, white settlers, U.S. troops, Black Seminoles, southern plantation and slave owners, Seminole Wars, Treaty of Moultrie Creek, Seminole relocation, Chief Billy Bowlegs, Florida Crackers.
SS.8.A.5.1:	Explain the causes, course, and consequence of the Civil War (sectionalism, slavery, states' rights, balance of power in the Senate).
SS.8.A.5.2:	Analyze the role of slavery in the development of sectional conflict. **Clarifications:** Examples may include, but are not limited to, Abolition Movement, Nat Turner's Rebellion, Black Codes, Missouri Compromise, Compromise of 1850, Uncle Tom's Cabin, Kansas-Nebraska Act, Dred Scott v. Sandford, Lincoln-Douglas Debates, raid on Harper's Ferry, Underground Railroad, Presidential Election of 1860, Southern secession.
SS.8.A.5.7:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, slavery, influential planters, Florida's secession and Confederate membership, women, children, pioneer environment, Union occupation, Battle of Olustee and role of 54th Massachusetts regiment, Battle at Natural Bridge.
SS.8.A.5.8:	Explain and evaluate the policies, practices, and consequences of Reconstruction (presidential and congressional reconstruction, Johnson's impeachment, Civil Rights Act of 1866, the 13th, 14th, and 15th Amendments, opposition of Southern whites to Reconstruction, accomplishments and failures of Radical Reconstruction, presidential election of 1876, end of Reconstruction, rise of Jim Crow laws, rise of Ku Klux Klan).
SS.8.C.1.1:	Identify the constitutional provisions for establishing citizenship.
SS.8.C.1.3:	Recognize the role of civic virtue in the lives of citizens and leaders from the colonial period through Reconstruction.
SS.8.C.1.4:	Identify the evolving forms of civic and political participation from the colonial period through Reconstruction.
SS.8.C.1.6:	Evaluate how amendments to the Constitution have expanded voting rights from our nation's early history to present day.
SS.8.C.2.1:	Evaluate and compare the essential ideals and principles of American constitutional government expressed in primary sources from the colonial period to Reconstruction.
SS.8.E.1.1:	Examine motivating economic factors that influenced the development of the United States economy over time including scarcity, supply and demand, opportunity costs, incentives, profits, and entrepreneurial aspects. **Clarifications:** Examples areTriangular Trade, colonial development - New England, Middle, and Southern colonies - Revolutionary War, Manifest Destiny, compromises over slavery issues, the Civil War, Reconstruction.
SS.8.E.2.1:	Analyze contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States economy.
SS.8.E.2.2:	Explain the economic impact of government policies. **Clarifications:** Examples are mercantilism, colonial establishment, Articles of Confederation, Constitution, compromises over slavery.
SS.8.E.2.3:	Assess the role of Africans and other minority groups in the economic development of the United States.
SS.8.G.1.1:	Use maps to explain physical and cultural attributes of major regions throughout American history.
SS.8.G.1.2:	Use appropriate geographic tools and terms to identify and describe significant places and regions in American history.
SS.8.G.2.1:	Identify the physical elements and the human elements that define and differentiate regions as relevant to American history. **Clarifications:** Examples of physical elements are climate, terrain, resources. Examples of human elements are religion, government, economy, language, demography.
SS.8.G.2.2:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the United States that have had critical economic, physical, or political ramifications. **Clarifications:** Examples are cataclysmic natural disasters, shipwrecks.
SS.8.G.2.3:	Use geographic terms and tools to analyze case studies of how selected regions of the United States have changed over time.
SS.8.G.3.1:	Locate and describe in geographic terms the major ecosystems of the United States.
SS.8.G.3.2:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in the United States and Florida over time.
SS.8.G.4.1:	Interpret population growth and other demographic data for any given place in the United States throughout its history.
SS.8.G.4.2:	Use geographic terms and tools to analyze the effects throughout American history of migration to and within the United States, both on the place of origin and destination.
SS.8.G.4.3:	Use geographic terms and tools to explain cultural diffusion throughout the United States as it expanded its territory.
SS.8.G.4.4:	Interpret databases, case studies, and maps to describe the role that regions play in influencing trade, migration patterns, and cultural/political interaction in the United States throughout time.

SS.8.G.4.5:	Use geographic terms and tools to analyze case studies of the development, growth, and changing nature of cities and urban centers in the United States over time.
SS.8.G.4.6:	Use political maps to describe changes in boundaries and governance throughout American history.
SS.8.G.5.1:	Describe human dependence on the physical environment and natural resources to satisfy basic needs in local environments in the United States.
SS.8.G.5.2:	Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history. **Clarifications:** Examples are deforestation, urbanization, agriculture.
SS.8.G.6.1:	Use appropriate maps and other graphic representations to analyze geographic problems and changes over time throughout American history.
SS.8.G.6.2:	Illustrate places and events in U.S. history through the use of narratives and graphic representations. **Clarifications:** Examples are maps, graphs, tables.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
LAFS.68.RH.1.3:	Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).
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LAFS.68.RH.2.5:	Describe how a text presents information (e.g., sequentially, comparatively, causally).
LAFS.68.RH.2.6:	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
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LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.1:	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots. **Standard Relation to Course: Supporting**
	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

MAFS.6.SP.2.5:	c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.8.C.2.4:	Critique school and public health policies that influence health promotion and disease prevention. **Clarifications:** Speed-limit laws, immunization requirements, universal precautions, zero tolerance, report bullying, and cell phone/texting laws.

General Course Information and Notes

GENERAL NOTES

M/J Florida - The social studies curriculum for this course consists of the following content area strands: American History, Economics, Civics and Government. The primary content emphasis for this course pertains to the study of the chronological development of the state of Florida by examining the political, economic, social, military and cultural events that affected the state. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the progression of Florida including, but not limited to, the evolution of Florida's diverse heritage through Spanish, French, British and American occupations, Florida's Native American population, United States annexation and territorial experience, statehood, Florida's role in sectionalism, Florida's system of slavery, Civil War and Reconstruction, Florida's diverse geographic regions and population groups, state government, modern day Florida's successes and challenges, and the projection of Florida's future development. Students will study methods of historical inquiry and primary and secondary historical documents.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.

2. Making close reading and rereading of texts central to lessons.

3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.

4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100030

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >
Abbreviated Title: M/J FLORIDA HIST
Course Length: Year (Y)
Course Attributes:
- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Social Science (Grades 5-9)
Social Science (Grades 6-12)
Elementary Education (Grades K-6)
Elementary Education (Elementary Grades 1-6)

M/J International Baccalaureate MYP United States History (#2100040) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at:
ibo.org/en/programmes/

GENERAL INFORMATION

Course Number: 2100040

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >
Abbreviated Title: M/J IB MYP US HIST
Course Length: Year (Y)
Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

M/J International Baccalaureate MYP United States History & Career Planning (#2100041) 2019 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

Career and Education Planning – Per section 1003.4156, Florida Statutes, the Career and Education Planning course must result in a completed, personalized academic and career plan for the student, that may be revised as the student progresses through middle and high school; must emphasize the importance of entrepreneurship and employability skills; and must include information from the Department of Economic Opportunity's economic security report as described in Section 445.07, Florida Statutes. The required, personalized academic and career plan must inform students of high school graduation requirements, including diploma designations (Section 1003.4285, Florida Statutes); requirements for a Florida Bright Futures Scholarship; state university and Florida College System institution admission requirements; and, available opportunities to earn college credit in high school utilizing acceleration mechanisms. For additional information on the Middle School Career and Education Planning courses, visit fldoe.org/academics/college-career-planning/educators-toolkit/index.stml.

Career and Education Planning Course Standards – Students will:

1.0 Describe the influences that societal, economic, and technological changes have on employment trends and future training.

2.0 Develop skills to locate, evaluate, and interpret career information.

3.0 Identify and demonstrate processes for making short and long term goals.

4.0 Demonstrate employability skills such as working in a group, problem-solving and organizational skills, and the importance of entrepreneurship.

5.0 Understand the relationship between educational achievement and career choices/postsecondary options.

6.0 Identify a career cluster and related pathways through an interest assessment that match career and education goals.

7.0 Develop a career and education plan that includes short and long-term goals, high school program of study, and postsecondary/career goals.

8.0 Demonstrate knowledge of technology and its application in career fields/clusters.

GENERAL INFORMATION

Course Number: 2100041

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: M/J IB MYP USHIST/CP

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Middle Grades Integrated Curriculum (Middle Grades 5-9)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

M/J United States History & Civics (#2100045) 2015 - 2022 (current)

Course Standards

Name	Description
SS.7.C.1.1:	Recognize how Enlightenment ideas including Montesquieu's view of separation of power and John Locke's theories related to natural law and how Locke's social contract influenced the Founding Fathers. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 18-19. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.2:	Trace the impact that the Magna Carta, English Bill of Rights, Mayflower Compact, and Thomas Paine's "Common Sense" had on colonists' views of government. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 20-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.3:	Describe how English policies and responses to colonial concerns led to the writing of the Declaration of Independence. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 22-23. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.4:	Analyze the ideas (natural rights, role of the government) and complaints set forth in the Declaration of Independence. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 24-25. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.5:	Identify how the weaknesses of the Articles of Confederation led to the writing of the Constitution. **Clarifications:** This benchmark is annually eavluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.6:	Interpret the intentions of the Preamble of the Constitution. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 27. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.7:	Describe how the Constitution limits the powers of government through separation of powers and checks and balances. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 28-29. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.8:	Explain the viewpoints of the Federalists and the Anti-Federalists regarding the ratification of the Constitution and inclusion of a bill of rights. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 30. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.1.9:	Define the rule of law and recognize its influence on the development of the American legal, political, and governmental systems. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.1:	Define the term "citizen," and identify legal means of becoming a United States citizen. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course

	(EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.2:	Evaluate the obligations citizens have to obey laws, pay taxes, defend the nation, and serve on juries. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 34-35. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.3:	Experience the responsibilities of citizens at the local, state, or federal levels. **Clarifications:** Examples are registering or pre-registering to vote, volunteering, communicating with government officials, informing others about current issues, participating in a political campaign/mock election.
SS.7.C.2.4:	Evaluate rights contained in the Bill of Rights and other amendments to the Constitution. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 36-37. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.5:	Distinguish how the Constitution safeguards and limits individual rights. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 38-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.6:	Simulate the trial process and the role of juries in the administration of justice.
SS.7.C.2.7:	Conduct a mock election to demonstrate the voting process and its impact on a school, community, or local level.
SS.7.C.2.8:	Identify America's current political parties, and illustrate their ideas about government. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 40. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.9:	Evaluate candidates for political office by analyzing their qualifications, experience, issue-based platforms, debates, and political ads. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 41-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.10:	Examine the impact of media, individuals, and interest groups on monitoring and influencing government. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 43. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.11:	Analyze media and political communications (bias, symbolism, propaganda). **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 44-45. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.12:	Develop a plan to resolve a state or local problem by researching public policy alternatives, identifying appropriate government agencies to address the issue, and determining a course of action. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 46-47. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.13:	Examine multiple perspectives on public and current issues. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 48-49. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.2.14:	Conduct a service project to further the public good. **Clarifications:** The project can be at the school, community, state, national, or international level.
SS.7.C.3.1:	Compare different forms of government (direct democracy, representative democracy, socialism, communism, monarchy, oligarchy, autocracy). **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.7.C.3.2:	Compare parliamentary, federal, confederal, and unitary systems of government. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.3:	Illustrate the structure and function (three branches of government established in Articles I, II, and III with corresponding powers) of government in the United States as established in the Constitution. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.4:	Identify the relationship and division of powers between the federal government and state governments. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 55. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.5:	Explain the Constitutional amendment process. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.6:	Evaluate Constitutional rights and their impact on individuals and society. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 57. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.7:	Analyze the impact of the 13th, 14th, 15th, 19th, 24th, and 26th amendments on participation of minority groups in the American political process. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 58-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.8:	Analyze the structure, functions, and processes of the legislative, executive, and judicial branches. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 60-61. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.9:	Illustrate the law making process at the local, state, and federal levels. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 60-61. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.10:	Identify sources and types (civil, criminal, constitutional, military) of law. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 62. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.11:	Diagram the levels, functions, and powers of courts at the state and federal levels. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 63-64. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.12:	Analyze the significance and outcomes of landmark Supreme Court cases including, but not limited to, Marbury v. Madison, Plessy v. Ferguson, Brown v. Board of Education, Gideon v. Wainwright, Miranda v. Arizona, in re Gault, Tinker v. Des Moines, Hazelwood v. Kuhlmeier, United States v. Nixon, and Bush v. Gore. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications page 65. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.3.13:	Compare the constitutions of the United States and Florida. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 66-67. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.7.C.3.14:	Differentiate between local, state, and federal governments' obligations and services. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 68-69. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.4.1:	Differentiate concepts related to United States domestic and foreign policy. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 70-71. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.4.2:	Recognize government and citizen participation in international organizations. **Clarifications:** Examples are United Nations, NATO, Peace Corps, World Health Organization, World Trade Organization, International Court of Justice. This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 72-73. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.7.C.4.3:	Describe examples of how the United States has dealt with international conflicts. **Clarifications:** This benchmark is annually evaluated on the Civics End-of-Course Assessment. For more information on how this benchmark is evaluated view the Civics End-of-Course Assessment Test Item Specifications pages 74-75. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.8.A.1.1:	Provide supporting details for an answer from text, interview for oral history, check validity of information from research/text, and identify strong vs. weak arguments. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigage, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf.
SS.8.A.1.2:	Analyze charts, graphs, maps, photographs and timelines; analyze political cartoons; determine cause and effect.
SS.8.A.1.3:	Analyze current events relevant to American History topics through a variety of electronic and print media resources. **Clarifications:** Examples may include, but are not limited to, articles, editorials, journals, periodicals, reports, websites, videos, and podcasts.
SS.8.A.1.4:	Differentiate fact from opinion, utilize appropriate historical research and fiction/nonfiction support materials.
SS.8.A.1.5:	Identify, within both primary and secondary sources, the author, audience, format, and purpose of significant historical documents. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.8.A.1.6:	Compare interpretations of key events and issues throughout American History. **Clarifications:** Examples may include, but are not limited to, historiography.
SS.8.A.1.7:	View historic events through the eyes of those who were there as shown in their art, writings, music, and artifacts.
SS.8.A.2.1:	Compare the relationships among the British, French, Spanish, and Dutch in their struggle for colonization of North America. **Clarifications:** This benchmark implies a study of the ways that economic, political, cultural, and religious competition between these Atlantic powers shaped early colonial America.
SS.8.A.2.2:	Compare the characteristics of the New England, Middle, and Southern colonies. **Clarifications:** Examples may include, but are not limited to, colonial governments, geographic influences, occupations, religion, education, settlement patterns, and social patterns.
SS.8.A.2.3:	Differentiate economic systems of New England, Middle and Southern colonies including indentured servants and slaves as labor sources. **Clarifications:** Examples may include, but are not limited to, subsistence farming, cash crop farming, and maritime industries.
SS.8.A.2.4:	Identify the impact of key colonial figures on the economic, political, and social development of the colonies. **Clarifications:** Examples may include, but are not limited to, John Smith, William Penn, Roger Williams, Anne Hutchinson, John Winthrop, Jonathan Edwards, William Bradford, Nathaniel Bacon, John Peter Zenger, and Lord Calvert.
SS.8.A.2.5:	Discuss the impact of colonial settlement on Native American populations. **Clarifications:** Examples may include, but are not limited to, war, disease, loss of land, westward displacement of tribes causing increased conflict between tribes, and dependence on trade for Western goods, including guns.
SS.8.A.2.6:	Examine the causes, course, and consequences of the French and Indian War. **Clarifications:** Examples may include, but are not limited to, ongoing conflict between France and England, territorial disputes, trade competition, Ft. Duquesne, Ft. Quebec, Treaty of Paris, heavy British debt.
SS.8.A.2.7:	Describe the contributions of key groups (Africans, Native Americans, women, and children) to the society and culture of colonial America.

SS.8.A.3.1:	Explain the consequences of the French and Indian War in British policies for the American colonies from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, Proclamation of 1763, Sugar Act, Quartering Act, Stamp Act, Declaratory Act, Townshend Acts, Tea Act, Quebec Act, and Coercive Acts.
SS.8.A.3.2:	Explain American colonial reaction to British policy from 1763 - 1774. **Clarifications:** Examples may include, but are not limited to, written protests, boycotts, unrest leading to the Boston Massacre, Boston Tea Party, First Continental Congress, Stamp Act Congress, Committees of Correspondence.
SS.8.A.3.3:	Recognize the contributions of the Founding Fathers (John Adams, Sam Adams, Benjamin Franklin, John Hancock, Alexander Hamilton, Thomas Jefferson, James Madison, George Mason, George Washington) during American Revolutionary efforts. **Clarifications:** Examples may also include, but are not limited to, Thomas Paine, John Jay, Peter Salem.
SS.8.A.3.4:	Examine the contributions of influential groups to both the American and British war efforts during the American Revolutionary War and their effects on the outcome of the war. **Clarifications:** Examples may include, but are not limited to, foreign alliances, freedmen, Native Americans, slaves, women, soldiers, Hessians.
SS.8.A.3.5:	Describe the influence of individuals on social and political developments during the Revolutionary era. **Clarifications:** Examples may include, but are not limited to, James Otis, Mercy Otis Warren, Abigail Adams, Benjamin Banneker, Lemuel Haynes, Phyllis Wheatley.
SS.8.A.3.6:	Examine the causes, course, and consequences of the American Revolution. **Clarifications:** Examples may include, but are not limited to, Battles of Lexington and Concord, Common Sense, Second Continental Congress, Battle of Bunker Hill, Battle of Cowpens, Battle of Trenton, Olive Branch Petition, Declaration of Independence, winter at Valley Forge, Battles of Saratoga and Yorktown, Treaty of Paris.
SS.8.A.3.7:	Examine the structure, content, and consequences of the Declaration of Independence.
SS.8.A.3.8:	Examine individuals and groups that affected political and social motivations during the American Revolution. **Clarifications:** Examples may include, but are not limited to, Ethan Allen and the Green Mountain Boys, the Committees of Correspondence, Sons of Liberty, Daughters of Liberty, the Black Regiment (in churches), Patrick Henry, Patriots, Loyalists, individual colonial militias, and undecideds.
SS.8.A.3.9:	Evaluate the structure, strengths, and weaknesses of the Articles of Confederation and its aspects that led to the Constitutional Convention.
SS.8.A.3.10:	Examine the course and consequences of the Constitutional Convention (New Jersey Plan, Virginia Plan, Great Compromise, Three-Fifths Compromise, compromises regarding taxation and slave trade, Electoral College, state vs. federal power, empowering a president).
SS.8.A.3.11:	Analyze support and opposition (Federalists, Federalist Papers, AntiFederalists, Bill of Rights) to ratification of the U.S. Constitution.
SS.8.A.3.12:	Examine the influences of George Washington's presidency in the formation of the new nation. **Clarifications:** Examples may include, but are not limited to, personal motivations, military experience, political influence, establishing Washington, D.C. as the nation's capital, rise of the party system, setting of precedents (e.g., the Cabinet), Farewell Address.
SS.8.A.3.13:	Explain major domestic and international economic, military, political, and socio-cultural events of John Adams's presidency. **Clarifications:** Examples may include, but aren ot limited to, XYZ Affairs, Alien and Sedition Acts, Land Act of 1800, the quasi-war, the Midnight Judges.
SS.8.A.3.14:	Explain major domestic and international economic, military, political, and socio-cultural events of Thomas Jefferson's presidency. **Clarifications:** Examples may include, but are not limited to, Election of 1800, birth of political parties, Marbury v. Madison, judicial review, Jefferson's First Inaugural Address, Judiciary Act of 1801, Louisiana Purchase, Barbary War, Lewis and Clark Expedition, Hamilton and Burr conflict/duel, Embargo of 1807.
SS.8.A.3.15:	Examine this time period (1763-1815) from the perspective of historically under-represented groups (children, indentured servants, Native Americans, slaves, women, working class).
SS.8.A.3.16:	Examine key events in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Treaty of Paris, British rule, Second Spanish Period.
SS.8.A.4.1:	Examine the causes, course, and consequences of United States westward expansion and its growing diplomatic assertiveness (War of 1812, Convention of 1818, Adams-Onis Treaty, Missouri Compromise, Monroe Doctrine, Trail of Tears, Texas annexation, Manifest Destiny, Oregon Territory, Mexican American War/Mexican Cession, California Gold Rush, Compromise of 1850, Kansas Nebraska Act, Gadsden Purchase).
SS.8.A.4.2:	Describe the debate surrounding the spread of slavery into western territories and Florida. **Clarifications:** Examples may include, but are not limited to, abolitionist movement, Ft. Mose, Missouri Compromise, Bleeding Kansas, Kansas-Nebraska Act, Compromise of 1850.
SS.8.A.4.3:	Examine the experiences and perspectives of significant individuals and groups during this era of American History. **Clarifications:** Examples may include, but are not limited to, Lewis and Clark, Sacajawea, York, Pike, Native Americans, Buffalo Soldiers, Mexicanos, Chinese immigrants, Irish immigrants, children, slaves, women, Alexis de Tocqueville, political parties.
SS.8.A.4.4:	Discuss the impact of westward expansion on cultural practices and migration patterns of Native American and African slave populations.
SS.8.A.4.5:	Explain the causes, course, and consequences of the 19th century transportation revolution on the growth of the nation's economy. **Clarifications:** Examples may include, but are not limited to, roads, canals, bridges, steamboats, railroads.

SS.8.A.4.6:	Identify technological improvements (inventions/inventors) that contributed to industrial growth. **Clarifications:** Examples may include, but are not limited to, Fitch/steamboat, Slater/textile mill machinery, Whitney/cotton gin, interchangeable parts, McCoy/industrial lubrication, Fulton/commercial steamboat, Lowell/ mechanized cotton mill, Isaac Singer/sewing machine.
SS.8.A.4.7:	Explain the causes, course, and consequences (industrial growth, subsequent effect on children and women) of New England's textile industry.
SS.8.A.4.8:	Describe the influence of individuals on social and political developments of this era in American History. **Clarifications:** Examples may include, but are not limited to, Daniel Boone, Tecumseh, Black Hawk, John Marshall, James Madison, Dolly Madison, Andrew Jackson, John C. Calhoun, Henry Clay, Daniel Webster, James Polk, Susan B. Anthony, Elizabeth Cady Stanton, William Lloyd Garrison, Frederick Douglass, Horace Mann, Dorothea Dix, Lucretia Mott, Sojourner Truth, Harriet Tubman.
SS.8.A.4.9:	Analyze the causes, course and consequences of the Second Great Awakening on social reform movements. **Clarifications:** Examples may include, but are not limited to, abolition, women's rights, temperance, education, prison and mental health reform, Charles Grandison Finney, the Beecher family.
SS.8.A.4.10:	Analyze the impact of technological advancements on the agricultural economy and slave labor. **Clarifications:** Examples may include, but are not limited to, cotton gin, steel plow, rapid growth of slave trade.
SS.8.A.4.11:	Examine the aspects of slave culture including plantation life, resistance efforts, and the role of the slaves' spiritual system.
SS.8.A.4.12:	Examine the effects of the 1804 Haitian Revolution on the United States acquisition of the Louisiana Territory.
SS.8.A.4.13:	Explain the consequences of landmark Supreme Court decisions (McCulloch v. Maryland [1819], Gibbons v. Odgen [1824], Cherokee Nation v. Georgia [1831], and Worcester v. Georgia [1832]) significant to this era of American history.
SS.8.A.4.14:	Examine the causes, course, and consequences of the women's suffrage movement (1848 Seneca Falls Convention, Declaration of Sentiments).
SS.8.A.4.15:	Examine the causes, course, and consequences of literature movements (Transcendentalism) significant to this era of American history.
SS.8.A.4.16:	Identify key ideas and influences of Jacksonian democracy. **Clarifications:** Examples may include, but are not limited to, political participation, political parties, constitutional government, spoils system, National Bank veto, Maysville Road veto, tariff battles, Indian Removal Act, nullification crisis.
SS.8.A.4.17:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, Andrew Jackson's military expeditions to end Indian uprisings, developing relationships between the Seminole and runaway slaves, Adams-Onis Treaty, Florida becoming a United States territory, combining former East and West Floridas, establishing first state capital, Florida's constitution, Florida's admittance to the Union as 27th state.
SS.8.A.4.18:	Examine the experiences and perspectives of different ethnic, national, and religious groups in Florida, explaining their contributions to Florida's and America's society and culture during the Territorial Period. **Clarifications:** Examples may include, but are not limited to, Osceola, white settlers, U.S. troops, Black Seminoles, southern plantation and slave owners, Seminole Wars, Treaty of Moultrie Creek, Seminole relocation, Chief Billy Bowlegs, Florida Crackers.
SS.8.A.5.1:	Explain the causes, course, and consequence of the Civil War (sectionalism, slavery, states' rights, balance of power in the Senate).
SS.8.A.5.2:	Analyze the role of slavery in the development of sectional conflict. **Clarifications:** Examples may include, but are not limited to, Abolition Movement, Nat Turner's Rebellion, Black Codes, Missouri Compromise, Compromise of 1850, Uncle Tom's Cabin, Kansas-Nebraska Act, Dred Scott v. Sandford, Lincoln-Douglas Debates, raid on Harper's Ferry, Underground Railroad, Presidential Election of 1860, Southern secession.
SS.8.A.5.3:	Explain major domestic and international economic, military, political, and socio-cultural events of Abraham Lincoln's presidency. **Clarifications:** Examples may include, but aren ot limited to, sectionalism, states' rights, slavery, Civil War, attempts at foreign alliances, Emancipation Proclamation, Gettysburg Address, suspension of habeas corpus, First and Second Inaugural Addresses.
SS.8.A.5.4:	Identify the division (Confederate and Union States, Border states, western territories) of the United States at the outbreak of the Civil War.
SS.8.A.5.5:	Compare Union and Confederate strengths and weaknesses. **Clarifications:** Examples may include, but aren ot limited to, technology, resources, alliances, geography, military leaders-Lincoln, Davis, Grant, Lee, Jackson, Sherman.
SS.8.A.5.6:	Compare significant Civil War battles and events and their effects on civilian populations. **Clarifications:** Examples may include, but are not limited to, Fort Sumter, Bull Run, Monitor v. Merrimack, Antietam, Vicksburg, Gettysburg, Emancipation Proclamation, Sherman's March, Lee's surrender at Appomattox.
SS.8.A.5.7:	Examine key events and peoples in Florida history as each impacts this era of American history. **Clarifications:** Examples may include, but are not limited to, slavery, influential planters, Florida's secession and Confederate membership, women, children, pioneer environment, Union occupation, Battle of Olustee and role of 54th Massachusetts regiment, Battle at Natural Bridge.
SS.8.A.5.8:	Explain and evaluate the policies, practices, and consequences of Reconstruction (presidential and congressional reconstruction, Johnson's impeachment, Civil Rights Act of 1866, the 13th, 14th, and 15th Amendments, opposition of Southern whites to Reconstruction, accomplishments and failures of Radical Reconstruction, presidential election of 1876, end of Reconstruction, rise of Jim Crow laws, rise of Ku Klux Klan).
SS.8.C.1.1:	Identify the constitutional provisions for establishing citizenship.
SS.8.C.1.2:	Compare views of self-government and the rights and responsibilities of citizens held by Patriots, Loyalists, and other colonists.
SS.8.C.1.3:	Recognize the role of civic virtue in the lives of citizens and leaders from the colonial period through Reconstruction.

SS.8.C.1.4:	Identify the evolving forms of civic and political participation from the colonial period through Reconstruction.
SS.8.C.1.5:	Apply the rights and principles contained in the Constitution and Bill of Rights to the lives of citizens today.
SS.8.C.1.6:	Evaluate how amendments to the Constitution have expanded voting rights from our nation's early history to present day.
SS.8.C.2.1:	Evaluate and compare the essential ideals and principles of American constitutional government expressed in primary sources from the colonial period to Reconstruction.
SS.8.E.1.1:	Examine motivating economic factors that influenced the development of the United States economy over time including scarcity, supply and demand, opportunity costs, incentives, profits, and entrepreneurial aspects. **Clarifications:** Examples areTriangular Trade, colonial development - New England, Middle, and Southern colonies - Revolutionary War, Manifest Destiny, compromises over slavery issues, the Civil War, Reconstruction.
SS.8.E.2.1:	Analyze contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States economy.
SS.8.E.2.2:	Explain the economic impact of government policies. **Clarifications:** Examples are mercantilism, colonial establishment, Articles of Confederation, Constitution, compromises over slavery.
SS.8.E.2.3:	Assess the role of Africans and other minority groups in the economic development of the United States.
SS.8.E.3.1:	Evaluate domestic and international interdependence. **Clarifications:** Examples are triangular trade routes and regional exchange of resources.
SS.8.G.1.1:	Use maps to explain physical and cultural attributes of major regions throughout American history.
SS.8.G.1.2:	Use appropriate geographic tools and terms to identify and describe significant places and regions in American history.
SS.8.G.2.1:	Identify the physical elements and the human elements that define and differentiate regions as relevant to American history. **Clarifications:** Examples of physical elements are climate, terrain, resources. Examples of human elements are religion, government, economy, language, demography.
SS.8.G.2.2:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the United States that have had critical economic, physical, or political ramifications. **Clarifications:** Examples are cataclysmic natural disasters, shipwrecks.
SS.8.G.2.3:	Use geographic terms and tools to analyze case studies of how selected regions of the United States have changed over time.
SS.8.G.3.1:	Locate and describe in geographic terms the major ecosystems of the United States.
SS.8.G.3.2:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in the United States and Florida over time.
SS.8.G.4.1:	Interpret population growth and other demographic data for any given place in the United States throughout its history.
SS.8.G.4.2:	Use geographic terms and tools to analyze the effects throughout American history of migration to and within the United States, both on the place of origin and destination.
SS.8.G.4.3:	Use geographic terms and tools to explain cultural diffusion throughout the United States as it expanded its territory.
SS.8.G.4.4:	Interpret databases, case studies, and maps to describe the role that regions play in influencing trade, migration patterns, and cultural/political interaction in the United States throughout time.
SS.8.G.4.5:	Use geographic terms and tools to analyze case studies of the development, growth, and changing nature of cities and urban centers in the United States over time.
SS.8.G.4.6:	Use political maps to describe changes in boundaries and governance throughout American history.
SS.8.G.5.1:	Describe human dependence on the physical environment and natural resources to satisfy basic needs in local environments in the United States.
SS.8.G.5.2:	Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history. **Clarifications:** Examples are deforestation, urbanization, agriculture.
SS.8.G.6.1:	Use appropriate maps and other graphic representations to analyze geographic problems and changes over time throughout American history.
SS.8.G.6.2:	Illustrate places and events in U.S. history through the use of narratives and graphic representations. **Clarifications:** Examples are maps, graphs, tables.
LAFS.68.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources.
LAFS.68.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
LAFS.68.RH.1.3:	Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).
LAFS.68.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
LAFS.68.RH.2.5:	Describe how a text presents information (e.g., sequentially, comparatively, causally).
LAFS.68.RH.2.6:	Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).
LAFS.68.RH.3.7:	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LAFS.68.RH.3.8:	Distinguish among fact, opinion, and reasoned judgment in a text.
LAFS.68.RH.3.9:	Analyze the relationship between a primary and secondary source on the same topic.
LAFS.68.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style.

	e. Provide a concluding statement or section that follows from and supports the argument presented.
LAFS.68.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.
LAFS.68.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.68.WHST.2.5:	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
LAFS.68.WHST.2.6:	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
LAFS.68.WHST.3.7:	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
LAFS.68.WHST.3.8:	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
LAFS.68.WHST.3.9:	Draw evidence from informational texts to support analysis reflection, and research.
LAFS.68.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
LAFS.8.SL.1.2:	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
LAFS.8.SL.1.3:	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.
LAFS.8.SL.2.4:	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
MAFS.6.SP.2.4:	Display numerical data in plots on a number line, including dot plots, histograms, and box plots. **Standard Relation to Course: Supporting**
MAFS.6.SP.2.5:	Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. **Standard Relation to Course: Supporting**
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. **Standard Relation to Course: Supporting**
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

	Standard Relation to Course: Supporting
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. **Standard Relation to Course: Supporting**
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.8.C.2.4:	Critique school and public health policies that influence health promotion and disease prevention. **Clarifications:** Speed-limit laws, immunization requirements, universal precautions, zero tolerance, report bullying, and cell phone/texting laws.

General Course Information and Notes

GENERAL NOTES

M/J U.S. History - The eighth grade social studies curriculum consists of the following content area strands: American History, Geography, Economics and Civics. Primary content emphasis for this course pertains to the study of American history from the Exploration and Colonization period to the Reconstruction Period following the Civil War. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to explore those fundamental ideas and events which occurred after Reconstruction.

M/J Civics - The primary content for this portion of the course pertains to the principles, functions, and organization of government; the origins of the American political system; the roles, rights, responsibilities of United States citizens; and methods of active participation in our political system.

Mathematics Benchmark Guidance - Instruction of U.S. History should include opportunities for students to interpret and create representations of historical events using mathematical tables, charts, and graphs.

Special Notes: This course is meant as a means of combining the required M/J United States History content with remediation of the required M/J Civics content.

Additional content that may be contained in the NAEP Grade 8 United States History assessment includes material from all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assets/documents/publications/frameworks/historyframework.pdf

Additional content that may be included in the Grade 8 NAEP Civics assessment includes:

- Distinctive characteristics of American society
- Unity/diversity in American society
- Civil society: nongovernmental associations, groups
- Nation-states
- Interaction among nation-states
- Major governmental, nongovernmental international organizations

The NAEP frameworks for Civics may be accessed at nagb.org/publications/frameworks/civicsframework.pdf

Instructional Practices
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100045

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: M/J US HIST & CIVICS

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Educator Certifications

History (Grades 6-12)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

M/J Social Studies Transfer (#2100220) 2015 - 2022 (current)

General Course Information and Notes

GENERAL NOTES

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 2100220

Course Type: Transfer Course

Course Status: Draft - Course Pending Approval

Grade Level(s): 6,7,8

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 6 to 8 Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >

Abbreviated Title: M/J SS TRAN

Course Length: Not Applicable

United States History (#2100310) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.3:	Describe the issues that divided Republicans during the early Reconstruction era. **Clarifications:** Examples may include, but are not limited to, the impeachment of Andrew Johnson, southern whites, blacks, black legislators and white extremist organizations such as the KKK, Knights of the White Camellia, The White League, Red Shirts, and Pale Faces. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.1:	Analyze the economic challenges to American farmers and farmers' responses to these challenges in the mid to late 1800s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, creation of agricultural colleges, Morrill Land Grant Act, gold standard and Bimetallism, the creation of the Populist Party.
SS.912.A.3.2:	Examine the social, political, and economic causes, course, and consequences of the second Industrial Revolution that began in the late 19th century. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.3:	Compare the first and second Industrial Revolutions in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, trade, development of new industries.
SS.912.A.3.4:	Determine how the development of steel, oil, transportation, communication, and business practices affected the United States economy. **Clarifications:** Examples may include, but are not limited to, railroads, the telegraph, pools, holding companies, trusts, corporations, contributed to westward expansion, expansion of trade and development of new industries, vertical and horizontal integration. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.6:	Analyze changes that occurred as the United States shifted from agrarian to an industrial society. **Clarifications:** Examples may include, but are not limited to, Social Darwinism, laissez-faire, government regulations of food and drugs, migration to cities, urbanization, changes to the family structure, Ellis Island, angel Island, push-pull factors. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.7:	Compare the experience of European immigrants in the east to that of Asian immigrants in the west (the Chinese Exclusion Act, Gentlemen's Agreement with Japan). **Clarifications:** Examples may include, but are not limited to nativism, integration of immigrants into society when comparing "Old" [before 1890] and "New" immigrants [after 1890], Immigration Act of 1924. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.8:	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.3.9:	Examine causes, course, and consequences of the labor movement in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but are not limited to, unions, Knights of Labor, american Federation of Labor, socialist Party, labor laws. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.10:	Review different economic and philosophic ideologies. **Clarifications:** Economic examples may include, but are not limited to, market economy, mixed economy, planned economy and philosophic examples are capitalism, socialism, communism, anarchy. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.11:	Analyze the impact of political machines in United States cities in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but aren ot limited to, Boss Tweed, Tammany Hall, George Washington Plunkitt, Washington Gladden, Thomas Nast. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.12:	Compare how different nongovernmental organizations and progressives worked to shape public policy, restore economic opportunities, and correct injustices in American life. **Clarifications:** Examples may include, but are not limited to, NAACP, YMCA, Women's Christian Temperance Union, National Women's Suffrage Association, National Women's Party, Robert LaFollette, Florence Kelley, Ida M. Tarbell, Eugene Debs, Carrie Chapman Catt, Alice Paul, Theodore Roosevelt, William Taft, Woodrow Wilson, Upton Sinclair, Booker T. Washington, W.E.B. DuBois, Gifford Pinchot, William Jennings Bryan. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.13:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the railroad industry, bridge construction in the Florida Keys, the cattle industry, the cigar industry, the influence of Cuban, Greek and Italian immigrants, Henry B. Plant, William Chipley, Henry Flagler, George Proctor, Thomas DeSaille Tucker, Hamilton Disston. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.1:	Analyze the major factors that drove United States imperialism. **Clarifications:** Examples may include, but are not limited to, the Monroe Doctrine, Manifest Destiny, *The Influence of Sea Power Upon History, Turner's thesis,the Roosevelt Corollary, natural resources, markets for resources, elimination of spheres of influence in China.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.2:	Explain the motives of the United States acquisition of the territories. **Clarifications:** Examples may include, but are not limited to, Alaska, Hawaii, Puerto Rico, Philippines, Guam, Samoa, Marshall Islands, Midway Island, Virgin Islands. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.4:	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction. **Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama.

	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.5:	Examine causes, course, and consequences of United States involvement in World War I. **Clarifications:** Examples may include, but are not limited to, nationalism, imperialism, militarism, entangling alliances vs. neutrality, Zimmerman Note, the *Lusitania,* the Selective Service Act, the homefront, the American Expeditionary Force, Wilson's Fourteen Points, the Treaty of Versailles (and opposition to it), isolationism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.6:	Examine how the United States government prepared the nation for war with war measures (Selective Service Act, War Industries Board, war bonds, Espionage Act, Sedition Act, Committee of Public Information). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.7:	Examine the impact of airplanes, battleships, new weaponry and chemical warfare in creating new war strategies (trench warfare, convoys). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.10:	Examine the provisions of the Treaty of Versailles and the failure of the United States to support the League of Nations. **Clarifications:** Examples may include, but are not limited to, self-determination, boundaries, demilitarized zone, sanctions reparations, and the League of Nations (including Article X of the Covenant). This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.1:	Discuss the economic outcomes of demobilization. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.3:	Examine the impact of United States foreign economic policy during the 1920s. **Clarifications:** Examples may include, but are not limited to, the Depression of 1920-21, "The Business of America is Business," assembly line, installment buying, consumerism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on

	the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.4:	Evaluate how the economic boom during the Roaring Twenties changed consumers, businesses, manufacturing, and marketing practices. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.5:	Describe efforts by the United States and other world powers to avoid future wars. **Clarifications:** Examples may include, but are not limited to, League of Nations, Washington Naval Conference, London Conference, Kellogg-Briand Pact, the Nobel Prize. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 34. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.11:	Examine causes, course, and consequences of the Great Depression and the New Deal. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.12:	Examine key events and people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Rosewood, land boom, speculation, impact of climate and natural disasters on the end of the land boom, invention of modern air conditioning in 1929, Alfred DuPont, Majorie Kinnan Rawlings, Zora Neale Hurston, James Weldon Johnson. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.1:	Examine causes, course, and consequences of World War II on the United States and the world. **Clarifications:** Examples may include, but are not limited to, rise of dictators, attack on Pearl Harbor, Nazi party, American neutrality, D-Day, Battle of the Bulge, War in the Pacific, internment camps, Holocaust, Yalta. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Describe the United States response in the early years of World War II (Neutrality Acts, Cash and Carry, Lend Lease Act). **Clarifications:**

SS.912.A.6.2:	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.3:	Analyze the impact of the Holocaust during World War II on Jews as well as other groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.4:	Examine efforts to expand or contract rights for various populations during World War II. **Clarifications:** Examples may include, but are not limited to, women, African Americans, German Americans, Japanese Americans and their internment, Native Americans, Hispanic Americans, Italian Americans. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.5:	Explain the impact of World War II on domestic government policy. **Clarifications:** Examples may include, but are not limited to, rationing, national security, civil rights, increased job opportunities for African Americans, women, Jews, and other refugees. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.6:	Analyze the use of atomic weapons during World War II and the aftermath of the bombings. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.7:	Describe the attempts to promote international justice through the Nuremberg Trials. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.8:	Analyze the effects of the Red Scare on domestic United States policy. **Clarifications:** Examples may include, but are not limited to, loyalty review program, House Un-American Activities Committee, McCarthyism (Sen. Joe McCarthy), McCarran Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.9:	Describe the rationale for the formation of the United Nations, including the contribution of Mary McLeod Bethune. **Clarifications:** Examples may include, but are not limited to, the Declaration of Human Rights. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.10:	Examine causes, course, and consequences of the early years of the Cold War (Truman Doctrine, Marshall Plan, NATO, Warsaw Pact). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 43-44. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.11:	Examine the controversy surrounding the proliferation of nuclear technology in the United States and the world. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.12:	Examine causes, course, and consequences of the Korean War. **Clarifications:** Examples may include, but aren ot limited to, Communist China, 38th parallel, cease fire, firing of Gen. Douglas McArthur. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Analyze significant foreign policy events during the Truman, Eisenhower, Kennedy, Johnson, and Nixon administrations.

SS.912.A.6.13:	**Clarifications:** Examples may include, but are not limited to, the Domino Theory, Sputnik, space race, Korean Conflict, Vietnam Conflict, U-2 and Gary Powers, Bay of Pigs invasion, Cuban Missile Crisis, Berlin Wall, Ping Pong Diplomacy, opening of China. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.14:	Analyze causes, course, and consequences of the Vietnam War. **Clarifications:** Examples may include, but are not lmited to, Geneva Accords, Gulf of Tonkin Resolution, the draft, escalating protest at home, Vietnamization, the War Powers Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.15:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Mosquito Fleet, "Double V Campaign", construction of military bases and WWII training centers, 1959 Cuban coup and its impact on Florida, development of the space program and NASA. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.1:	Identify causes for Post-World War II prosperity and its effects on American society. **Clarifications:** Examples may include, but are not limited to, G.I. Bill, Baby Boom, growth of suburbs, Beatnik movement, youth culture, religious revivalism (e.g., Billy Graham and Bishop Fulton J. Sheen), conformity of the 1950s and the protest in the 1960s. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.2:	Compare the relative prosperity between different ethnic groups and social classes in the post-World War II period. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.3:	Examine the changing status of women in the United States from post-World War II to present. **Clarifications:** Examples may include, but are not limited to, increased numbers of women in the workforce, Civil Rights Act of 1964, *The Feminine Mystique*, National Organization for Women, *Roe v. Wade,* Equal Rights Amendment, Title IX, Betty Freidan, Gloria Steinem, Phyllis Schlafly, Billie Jean King, feminism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.4:	Evaluate the success of 1960s era presidents' foreign and domestic policies. **Clarifications:** Examples may include, but are not limited to, civil rights legislation, Space Race, Great Society, War on Poverty. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.10:	Analyze the significance of Vietnam and Watergate on the government and people of the United States. **Clarifications:** Examples may include, but are not limited to, mistrust of government, reinforcement of freedom of the press, as well as checks and balances. Examples may include, but are not limited to, mistrust of government and reinforcement of freedom of the press. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.13:	Analyze the attempts to extend New Deal legislation through the Great Society and the successes and failures of these programs to promote social and economic stability. **Clarifications:** Examples may include, but are not limited to, Civil Rights Act of 1964, Voting Rights Act of 1965, War on Poverty, Medicare, Medicaid, Headstart. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.15:	Analyze the effects of foreign and domestic terrorism on the American people. **Clarifications:** Examples may include, but are not limited to, Oklahoma City bombing, attack of September 11, 2001, Patriot Act, wars in Afghanistan and Iraq. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.16:	Examine changes in immigration policy and attitudes toward immigration since 1950. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on

	the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.17:	Examine key events and key people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.H.1.1:	Relate works in the arts (architecture, dance, music, theatre, and visual arts) of varying styles and genre according to the periods in which they were created. **Clarifications:** Examples are Bronze Age, Ming Dynasty, Classical, Renaissance, Modern, and Contemporary.
SS.912.H.1.3:	Relate works in the arts to various cultures. **Clarifications:** Examples are African, Asian, Oceanic, European, the Americas, Middle Eastern, Egyptian, Greek, Roman.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
LAFS.1112.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
LAFS.1112.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
LAFS.1112.RH.1.3:	Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
LAFS.1112.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
LAFS.1112.RH.2.5:	Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
LAFS.1112.RH.2.6:	Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
LAFS.1112.RH.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
LAFS.1112.RH.3.8:	Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
LAFS.1112.RH.3.9:	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
LAFS.1112.RH.4.10:	By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.

LAFS.1112.WHST.1.1:	b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems

	and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

VERSION DESCRIPTION

United States History (U.S. History) 9-12 Course - The grade 9-12 United States History course consists of the following content area strands: United States History, Geography, and Humanities. The primary content emphasis for this course pertains to the study of United States history from Reconstruction to the present day. Students will be exposed to the historical, geographic, political, economic and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to review those fundamental ideas and events which occurred before the end of Reconstruction.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts and graphs.

Special Notes: Additional content that may be contained in the NAEP Grade 12 United States History assessment includes material from all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assests/documents/publications/frameworks/hsitoryframework.pdf.

Instructional Practices: Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf.

Additional Instructional Resources:

Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

A.V.E. for Success Collection: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139

GENERAL INFORMATION

Course Number: 2100310

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: US HIST

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Class Size Core Required

Course Type: Core Academic Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12,30,31

Graduation Requirement: United States History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 5-9)

United States History for Credit Recovery (#2100315) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.3:	Describe the issues that divided Republicans during the early Reconstruction era. **Clarifications:** Examples may include, but are not limited to, the impeachment of Andrew Johnson, southern whites, blacks, black legislators and white extremist organizations such as the KKK, Knights of the White Camellia, The White League, Red Shirts, and Pale Faces. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:**

SS.912.A.2.6:	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.1:	Analyze the economic challenges to American farmers and farmers' responses to these challenges in the mid to late 1800s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, creation of agricultural colleges, Morrill Land Grant Act, gold standard and Bimetallism, the creation of the Populist Party.
SS.912.A.3.2:	Examine the social, political, and economic causes, course, and consequences of the second Industrial Revolution that began in the late 19th century. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.3:	Compare the first and second Industrial Revolutions in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, trade, development of new industries.
SS.912.A.3.4:	Determine how the development of steel, oil, transportation, communication, and business practices affected the United States economy. **Clarifications:** Examples may include, but are not limited to, railroads, the telegraph, pools, holding companies, trusts, corporations, contributed to westward expansion, expansion of trade and development of new industries, vertical and horizontal integration. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.6:	Analyze changes that occurred as the United States shifted from agrarian to an industrial society. **Clarifications:** Examples may include, but are not limited to, Social Darwinism, laissez-faire, government regulations of food and drugs, migration to cities, urbanization, changes to the family structure, Ellis Island, angel Island, push-pull factors. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.7:	Compare the experience of European immigrants in the east to that of Asian immigrants in the west (the Chinese Exclusion Act, Gentlemen's Agreement with Japan). **Clarifications:** Examples may include, but are not limited to nativism, integration of immigrants into society when comparing "Old" [before 1890] and "New" immigrants [after 1890], Immigration Act of 1924. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor).

SS.912.A.3.8:	**Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.9:	Examine causes, course, and consequences of the labor movement in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but are not limited to, unions, Knights of Labor, american Federation of Labor, socialist Party, labor laws. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.10:	Review different economic and philosophic ideologies. **Clarifications:** Economic examples may include, but are not limited to, market economy, mixed economy, planned economy and philosophic examples are capitalism, socialism, communism, anarchy. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.11:	Analyze the impact of political machines in United States cities in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but aren ot limited to, Boss Tweed, Tammany Hall, George Washington Plunkitt, Washington Gladden, Thomas Nast. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.12:	Compare how different nongovernmental organizations and progressives worked to shape public policy, restore economic opportunities, and correct injustices in American life. **Clarifications:** Examples may include, but are not limited to, NAACP, YMCA, Women's Christian Temperance Union, National Women's Suffrage Association, National Women's Party, Robert LaFollette, Florence Kelley, Ida M. Tarbell, Eugene Debs, Carrie Chapman Catt, Alice Paul, Theodore Roosevelt, William Taft, Woodrow Wilson, Upton Sinclair, Booker T. Washington, W.E.B. DuBois, Gifford Pinchot, William Jennings Bryan. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.13:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the railroad industry, bridge construction in the Florida Keys, the cattle industry, the cigar industry, the influence of Cuban, Greek and Italian immigrants, Henry B. Plant, William Chipley, Henry Flagler, George Proctor, Thomas DeSaille Tucker, Hamilton Disston. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.1:	Analyze the major factors that drove United States imperialism. **Clarifications:** Examples may include, but are not limited to, the Monroe Doctrine, Manifest Destiny, *The Influence of Sea Power Upon History, Turner's thesis,the Roosevelt Corollary, natural resources, markets for resources, elimination of spheres of influence in China.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.2:	Explain the motives of the United States acquisition of the territories. **Clarifications:** Examples may include, but are not limited to, Alaska, Hawaii, Puerto Rico, Philippines, Guam, Samoa, Marshall Islands, Midway Island, Virgin Islands. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction.

SS.912.A.4.4:	**Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.5:	Examine causes, course, and consequences of United States involvement in World War I. **Clarifications:** Examples may include, but are not limited to, nationalism, imperialism, militarism, entangling alliances vs. neutrality, Zimmerman Note, the *Lusitania,* the Selective Service Act, the homefront, the American Expeditionary Force, Wilson's Fourteen Points, the Treaty of Versailles (and opposition to it), isolationism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.6:	Examine how the United States government prepared the nation for war with war measures (Selective Service Act, War Industries Board, war bonds, Espionage Act, Sedition Act, Committee of Public Information). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.7:	Examine the impact of airplanes, battleships, new weaponry and chemical warfare in creating new war strategies (trench warfare, convoys). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.10:	Examine the provisions of the Treaty of Versailles and the failure of the United States to support the League of Nations. **Clarifications:** Examples may include, but are not limited to, self-determination, boundaries, demilitarized zone, sanctions reparations, and the League of Nations (including Article X of the Covenant). This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.1:	Discuss the economic outcomes of demobilization. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Examine the impact of United States foreign economic policy during the 1920s. **Clarifications:** Examples may include, but are not limited to, the Depression of 1920-21, "The Business of America is Business," assembly line, installment buying,

SS.912.A.5.3:	consumerism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.4:	Evaluate how the economic boom during the Roaring Twenties changed consumers, businesses, manufacturing, and marketing practices. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.5:	Describe efforts by the United States and other world powers to avoid future wars. **Clarifications:** Examples may include, but are not limited to, League of Nations, Washington Naval Conference, London Conference, Kellogg-Briand Pact, the Nobel Prize. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 34. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.11:	Examine causes, course, and consequences of the Great Depression and the New Deal. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.12:	Examine key events and people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Rosewood, land boom, speculation, impact of climate and natural disasters on the end of the land boom, invention of modern air conditioning in 1929, Alfred DuPont, Majorie Kinnan Rawlings, Zora Neale Hurston, James Weldon Johnson. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.1:	Examine causes, course, and consequences of World War II on the United States and the world. **Clarifications:** Examples may include, but are not limited to, rise of dictators, attack on Pearl Harbor, Nazi party, American neutrality, D-Day, Battle of the Bulge, War in the Pacific, internment camps, Holocaust, Yalta. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found

	on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.2:	Describe the United States response in the early years of World War II (Neutrality Acts, Cash and Carry, Lend Lease Act). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.3:	Analyze the impact of the Holocaust during World War II on Jews as well as other groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.4:	Examine efforts to expand or contract rights for various populations during World War II. **Clarifications:** Examples may include, but are not limited to, women, African Americans, German Americans, Japanese Americans and their internment, Native Americans, Hispanic Americans, Italian Americans. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.5:	Explain the impact of World War II on domestic government policy. **Clarifications:** Examples may include, but are not limited to, rationing, national security, civil rights, increased job opportunities for African Americans, women, Jews, and other refugees. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.6:	Analyze the use of atomic weapons during World War II and the aftermath of the bombings. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.7:	Describe the attempts to promote international justice through the Nuremberg Trials. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.8:	Analyze the effects of the Red Scare on domestic United States policy. **Clarifications:** Examples may include, but are not limited to, loyalty review program, House Un-American Activities Committee, McCarthyism (Sen. Joe McCarthy), McCarran Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.9:	Describe the rationale for the formation of the United Nations, including the contribution of Mary McLeod Bethune. **Clarifications:** Examples may include, but are not limited to, the Declaration of Human Rights. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.10:	Examine causes, course, and consequences of the early years of the Cold War (Truman Doctrine, Marshall Plan, NATO, Warsaw Pact). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 43-44. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.11:	Examine the controversy surrounding the proliferation of nuclear technology in the United States and the world. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.12:	Examine causes, course, and consequences of the Korean War. **Clarifications:** Examples may include, but aren ot limited to, Communist China, 38th parallel, cease fire, firing of Gen. Douglas McArthur. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.13:	Analyze significant foreign policy events during the Truman, Eisenhower, Kennedy, Johnson, and Nixon administrations. **Clarifications:** Examples may include, but are not limited to, the Domino Theory, Sputnik, space race, Korean Conflict, Vietnam Conflict, U-2 and Gary Powers, Bay of Pigs invasion, Cuban Missile Crisis, Berlin Wall, Ping Pong Diplomacy, opening of China. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.14:	Analyze causes, course, and consequences of the Vietnam War. **Clarifications:** Examples may include, but are not lmited to, Geneva Accords, Gulf of Tonkin Resolution, the draft, escalating protest at home, Vietnamization, the War Powers Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.15:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Mosquito Fleet, "Double V Campaign", construction of military bases and WWII training centers, 1959 Cuban coup and its impact on Florida, development of the space program and NASA. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.1:	Identify causes for Post-World War II prosperity and its effects on American society. **Clarifications:** Examples may include, but are not limited to, G.I. Bill, Baby Boom, growth of suburbs, Beatnik movement, youth culture, religious revivalism (e.g., Billy Graham and Bishop Fulton J. Sheen), conformity of the 1950s and the protest in the 1960s. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.2:	Compare the relative prosperity between different ethnic groups and social classes in the post-World War II period. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.3:	Examine the changing status of women in the United States from post-World War II to present. **Clarifications:** Examples may include, but are not limited to, increased numbers of women in the workforce, Civil Rights Act of 1964, *The Feminine Mystique*, National Organization for Women, *Roe v. Wade,* Equal Rights Amendment, Title IX, Betty Freidan, Gloria Steinem, Phyllis Schlafly, Billie Jean King, feminism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.4:	Evaluate the success of 1960s era presidents' foreign and domestic policies. **Clarifications:** Examples may include, but are not limited to, civil rights legislation, Space Race, Great Society, War on Poverty. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale].

	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.10:	Analyze the significance of Vietnam and Watergate on the government and people of the United States. **Clarifications:** Examples may include, but are not limited to, mistrust of government, reinforcement of freedom of the press, as well as checks and balances. Examples may include, but are not limited to, mistrust of government and reinforcement of freedom of the press. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.13:	Analyze the attempts to extend New Deal legislation through the Great Society and the successes and failures of these programs to promote social and economic stability. **Clarifications:** Examples may include, but are not limited to, Civil Rights Act of 1964, Voting Rights Act of 1965, War on Poverty, Medicare, Medicaid, Headstart. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.15:	Analyze the effects of foreign and domestic terrorism on the American people. **Clarifications:** Examples may include, but are not limited to, Oklahoma City bombing, attack of September 11, 2001, Patriot Act, wars in Afghanistan and Iraq. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

	Examine changes in immigration policy and attitudes toward immigration since 1950.
SS.912.A.7.16:	**Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Examine key events and key people in Florida history as they relate to United States history.
SS.912.A.7.17:	**Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
	Identify the physical characteristics and the human characteristics that define and differentiate regions.
SS.912.G.2.1:	**Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
	Relate works in the arts (architecture, dance, music, theatre, and visual arts) of varying styles and genre according to the periods in which they were created.
SS.912.H.1.1:	**Clarifications:** Examples are Bronze Age, Ming Dynasty, Classical, Renaissance, Modern, and Contemporary.
	Relate works in the arts to various cultures.
SS.912.H.1.3:	**Clarifications:** Examples are African, Asian, Oceanic, European, the Americas, Middle Eastern, Egyptian, Greek, Roman.
	Examine artistic response to social issues and new ideas in various cultures.
SS.912.H.1.5:	**Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
LAFS.1112.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
LAFS.1112.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
LAFS.1112.RH.1.3:	Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
LAFS.1112.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
LAFS.1112.RH.2.5:	Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
LAFS.1112.RH.2.6:	Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
LAFS.1112.RH.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
LAFS.1112.RH.3.8:	Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
LAFS.1112.RH.3.9:	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
LAFS.1112.RH.4.10:	By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience,

	and a range of formal and informal tasks.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending

MAFS.K12.MP.1.1:	on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

United States History (U.S. History) 9-12 Course - The grade 9-12 United States History course consists of the following content area strands: United States History, Geography, and Humanities. The primary content emphasis for this course pertains to the study of United States history from Reconstruction to the present day. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to review those fundamental ideas and events which occurred before the end of Reconstruction.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Special Notes:
Credit Recovery courses are credit bearing courses with specific content requirements defined by Next Generation Sunshine State Standards and/or Florida Standards. Students enrolled in a Credit Recovery course must have previously attempted the corresponding course (and/or End-of-Course assessment) since the course requirements for the Credit Recovery course are exactly the same as the previously attempted corresponding course. For example, Geometry (1206310) and Geometry for Credit Recovery (1206315) have identical content requirements. It is important to note that Credit Recovery courses are not bound by Section 1003.436(1)(a), Florida Statutes, requiring a minimum of 135 hours of bona fide instruction (120 hours in a school/district implementing block scheduling) in a designed course of study that contains student performance standards, since the students have previously attempted successful completion of the corresponding course. Additionally, Credit Recovery courses should ONLY be used for credit recovery, grade forgiveness, or remediation for students needing to prepare for an End-of-Course assessment retake.

Additional content that may be contained in the NAEP Grade 12 United States History assessment includes material from all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assets/documents/publications/frameworks/historyframework.pdf

Instructional Practices:

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

GENERAL INFORMATION

Course Number: 2100315

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: US HIST CR

Number of Credits: One (1) credit

Course Length: Credit Recovery (R)

Course Type: Credit Recovery

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

United States History Honors (#2100320) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.3:	Describe the issues that divided Republicans during the early Reconstruction era. **Clarifications:** Examples may include, but are not limited to, the impeachment of Andrew Johnson, southern whites, blacks, black legislators and white extremist organizations such as the KKK, Knights of the White Camellia, The White League, Red Shirts, and Pale Faces. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.1:	Analyze the economic challenges to American farmers and farmers' responses to these challenges in the mid to late 1800s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, creation of agricultural colleges, Morrill Land Grant Act, gold standard and Bimetallism, the creation of the Populist Party.
SS.912.A.3.2:	Examine the social, political, and economic causes, course, and consequences of the second Industrial Revolution that began in the late 19th century. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.3:	Compare the first and second Industrial Revolutions in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, trade, development of new industries.
SS.912.A.3.4:	Determine how the development of steel, oil, transportation, communication, and business practices affected the United States economy. **Clarifications:** Examples may include, but are not limited to, railroads, the telegraph, pools, holding companies, trusts, corporations, contributed to westward expansion, expansion of trade and development of new industries, vertical and horizontal integration. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.6:	Analyze changes that occurred as the United States shifted from agrarian to an industrial society. **Clarifications:** Examples may include, but are not limited to, Social Darwinism, laissez-faire, government regulations of food and drugs, migration to cities, urbanization, changes to the family structure, Ellis Island, angel Island, push-pull factors. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.7:	Compare the experience of European immigrants in the east to that of Asian immigrants in the west (the Chinese Exclusion Act, Gentlemen's Agreement with Japan). **Clarifications:** Examples may include, but are not limited to nativism, integration of immigrants into society when comparing "Old" [before 1890] and "New" immigrants [after 1890], Immigration Act of 1924. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.8:	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.3.9:	Examine causes, course, and consequences of the labor movement in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but are not limited to, unions, Knights of Labor, american Federation of Labor, socialist Party, labor laws. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.10:	Review different economic and philosophic ideologies. **Clarifications:** Economic examples may include, but are not limited to, market economy, mixed economy, planned economy and philosophic examples are capitalism, socialism, communism, anarchy. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.11:	Analyze the impact of political machines in United States cities in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but aren ot limited to, Boss Tweed, Tammany Hall, George Washington Plunkitt, Washington Gladden, Thomas Nast. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.12:	Compare how different nongovernmental organizations and progressives worked to shape public policy, restore economic opportunities, and correct injustices in American life. **Clarifications:** Examples may include, but are not limited to, NAACP, YMCA, Women's Christian Temperance Union, National Women's Suffrage Association, National Women's Party, Robert LaFollette, Florence Kelley, Ida M. Tarbell, Eugene Debs, Carrie Chapman Catt, Alice Paul, Theodore Roosevelt, William Taft, Woodrow Wilson, Upton Sinclair, Booker T. Washington, W.E.B. DuBois, Gifford Pinchot, William Jennings Bryan. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.13:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the railroad industry, bridge construction in the Florida Keys, the cattle industry, the cigar industry, the influence of Cuban, Greek and Italian immigrants, Henry B. Plant, William Chipley, Henry Flagler, George Proctor, Thomas DeSaille Tucker, Hamilton Disston. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.1:	Analyze the major factors that drove United States imperialism. **Clarifications:** Examples may include, but are not limited to, the Monroe Doctrine, Manifest Destiny, *The Influence of Sea Power Upon History, Turner's thesis,the Roosevelt Corollary, natural resources, markets for resources, elimination of spheres of influence in China.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.2:	Explain the motives of the United States acquisition of the territories. **Clarifications:** Examples may include, but are not limited to, Alaska, Hawaii, Puerto Rico, Philippines, Guam, Samoa, Marshall Islands, Midway Island, Virgin Islands. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.4:	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction. **Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama.

	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.5:	Examine causes, course, and consequences of United States involvement in World War I. **Clarifications:** Examples may include, but are not limited to, nationalism, imperialism, militarism, entangling alliances vs. neutrality, Zimmerman Note, the *Lusitania,* the Selective Service Act, the homefront, the American Expeditionary Force, Wilson's Fourteen Points, the Treaty of Versailles (and opposition to it), isolationism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.6:	Examine how the United States government prepared the nation for war with war measures (Selective Service Act, War Industries Board, war bonds, Espionage Act, Sedition Act, Committee of Public Information). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.7:	Examine the impact of airplanes, battleships, new weaponry and chemical warfare in creating new war strategies (trench warfare, convoys). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.10:	Examine the provisions of the Treaty of Versailles and the failure of the United States to support the League of Nations. **Clarifications:** Examples may include, but are not limited to, self-determination, boundaries, demilitarized zone, sanctions reparations, and the League of Nations (including Article X of the Covenant). This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.1:	Discuss the economic outcomes of demobilization. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.3:	Examine the impact of United States foreign economic policy during the 1920s. **Clarifications:** Examples may include, but are not limited to, the Depression of 1920-21, "The Business of America is Business," assembly line, installment buying, consumerism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on

	the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.4:	Evaluate how the economic boom during the Roaring Twenties changed consumers, businesses, manufacturing, and marketing practices. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.5:	Describe efforts by the United States and other world powers to avoid future wars. **Clarifications:** Examples may include, but are not limited to, League of Nations, Washington Naval Conference, London Conference, Kellogg-Briand Pact, the Nobel Prize. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 34. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.11:	Examine causes, course, and consequences of the Great Depression and the New Deal. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.12:	Examine key events and people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Rosewood, land boom, speculation, impact of climate and natural disasters on the end of the land boom, invention of modern air conditioning in 1929, Alfred DuPont, Majorie Kinnan Rawlings, Zora Neale Hurston, James Weldon Johnson. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.1:	Examine causes, course, and consequences of World War II on the United States and the world. **Clarifications:** Examples may include, but are not limited to, rise of dictators, attack on Pearl Harbor, Nazi party, American neutrality, D-Day, Battle of the Bulge, War in the Pacific, internment camps, Holocaust, Yalta. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Describe the United States response in the early years of World War II (Neutrality Acts, Cash and Carry, Lend Lease Act). **Clarifications:**

SS.912.A.6.2:	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.3:	Analyze the impact of the Holocaust during World War II on Jews as well as other groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.4:	Examine efforts to expand or contract rights for various populations during World War II. **Clarifications:** Examples may include, but are not limited to, women, African Americans, German Americans, Japanese Americans and their internment, Native Americans, Hispanic Americans, Italian Americans. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.5:	Explain the impact of World War II on domestic government policy. **Clarifications:** Examples may include, but are not limited to, rationing, national security, civil rights, increased job opportunities for African Americans, women, Jews, and other refugees. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.6:	Analyze the use of atomic weapons during World War II and the aftermath of the bombings. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.7:	Describe the attempts to promote international justice through the Nuremberg Trials. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.8:	Analyze the effects of the Red Scare on domestic United States policy. **Clarifications:** Examples may include, but are not limited to, loyalty review program, House Un-American Activities Committee, McCarthyism (Sen. Joe McCarthy), McCarran Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.9:	Describe the rationale for the formation of the United Nations, including the contribution of Mary McLeod Bethune. **Clarifications:** Examples may include, but are not limited to, the Declaration of Human Rights. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.10:	Examine causes, course, and consequences of the early years of the Cold War (Truman Doctrine, Marshall Plan, NATO, Warsaw Pact). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 43-44. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.11:	Examine the controversy surrounding the proliferation of nuclear technology in the United States and the world. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.12:	Examine causes, course, and consequences of the Korean War. **Clarifications:** Examples may include, but aren ot limited to, Communist China, 38th parallel, cease fire, firing of Gen. Douglas McArthur. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Analyze significant foreign policy events during the Truman, Eisenhower, Kennedy, Johnson, and Nixon administrations.

SS.912.A.6.13:	**Clarifications:** Examples may include, but are not limited to, the Domino Theory, Sputnik, space race, Korean Conflict, Vietnam Conflict, U-2 and Gary Powers, Bay of Pigs invasion, Cuban Missile Crisis, Berlin Wall, Ping Pong Diplomacy, opening of China. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.14:	Analyze causes, course, and consequences of the Vietnam War. **Clarifications:** Examples may include, but are not lmited to, Geneva Accords, Gulf of Tonkin Resolution, the draft, escalating protest at home, Vietnamization, the War Powers Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.15:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Mosquito Fleet, "Double V Campaign", construction of military bases and WWII training centers, 1959 Cuban coup and its impact on Florida, development of the space program and NASA. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.1:	Identify causes for Post-World War II prosperity and its effects on American society. **Clarifications:** Examples may include, but are not limited to, G.I. Bill, Baby Boom, growth of suburbs, Beatnik movement, youth culture, religious revivalism (e.g., Billy Graham and Bishop Fulton J. Sheen), conformity of the 1950s and the protest in the 1960s. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.2:	Compare the relative prosperity between different ethnic groups and social classes in the post-World War II period. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.3:	Examine the changing status of women in the United States from post-World War II to present. **Clarifications:** Examples may include, but are not limited to, increased numbers of women in the workforce, Civil Rights Act of 1964, *The Feminine Mystique*, National Organization for Women, *Roe v. Wade,* Equal Rights Amendment, Title IX, Betty Freidan, Gloria Steinem, Phyllis Schlafly, Billie Jean King, feminism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.4:	Evaluate the success of 1960s era presidents' foreign and domestic policies. **Clarifications:** Examples may include, but are not limited to, civil rights legislation, Space Race, Great Society, War on Poverty. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.10:	Analyze the significance of Vietnam and Watergate on the government and people of the United States. **Clarifications:** Examples may include, but are not limited to, mistrust of government, reinforcement of freedom of the press, as well as checks and balances. Examples may include, but are not limited to, mistrust of government and reinforcement of freedom of the press. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.13:	Analyze the attempts to extend New Deal legislation through the Great Society and the successes and failures of these programs to promote social and economic stability. **Clarifications:** Examples may include, but are not limited to, Civil Rights Act of 1964, Voting Rights Act of 1965, War on Poverty, Medicare, Medicaid, Headstart. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.15:	Analyze the effects of foreign and domestic terrorism on the American people. **Clarifications:** Examples may include, but are not limited to, Oklahoma City bombing, attack of September 11, 2001, Patriot Act, wars in Afghanistan and Iraq. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.16:	Examine changes in immigration policy and attitudes toward immigration since 1950. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on

	the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.17:	Examine key events and key people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.H.1.1:	Relate works in the arts (architecture, dance, music, theatre, and visual arts) of varying styles and genre according to the periods in which they were created. **Clarifications:** Examples are Bronze Age, Ming Dynasty, Classical, Renaissance, Modern, and Contemporary.
SS.912.H.1.3:	Relate works in the arts to various cultures. **Clarifications:** Examples are African, Asian, Oceanic, European, the Americas, Middle Eastern, Egyptian, Greek, Roman.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
LAFS.1112.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
LAFS.1112.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
LAFS.1112.RH.1.3:	Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
LAFS.1112.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
LAFS.1112.RH.2.5:	Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
LAFS.1112.RH.2.6:	Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
LAFS.1112.RH.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
LAFS.1112.RH.3.8:	Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
LAFS.1112.RH.3.9:	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
LAFS.1112.RH.4.10:	By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.

LAFS.1112.WHST.1.1:	b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems

	and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

United States History (U.S. History) 9-12 Course - The grade 9-12 United States History course consists of the following content area strands: United States History, Geography, and Humanities. The primary content emphasis for this course pertains to the study of United States history from Reconstruction to the present day. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the development of the United States and the resulting impact on world history. So that students can clearly see the relationship between cause and effect in historical events, students should have the opportunity to review those fundamental ideas and events which occurred before the end of Reconstruction.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Special Notes:
Additional content that may be contained in the NAEP Grade 12 United States History assessment includes material from all time periods on the following topics:

- Change and Continuity in American Democracy: Ideas, Institutions, Events, Key Figures, and Controversies
- The Gathering and Interactions of Peoples, Cultures, and Ideas
- Economic and Technological Changes and Their Relationship to Society, Ideas, and the Environment
- The Changing Role of America in the World

The NAEP frameworks for United States History may be accessed at nagb.org/content/nagb/assets/documents/publications/frameworks/historyframework.pdf

Instructional Practices:
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/
A.V.E. for Success Collection: fasa.net/4DCGI/cms/review.html?Action=CMS_Document&DocID=139

GENERAL INFORMATION

Course Number: 2100320

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: US HIST HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: United States History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

Advanced Placement United States History (#2100330) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The course description for this Advanced Placement courses is located on the College Board site at apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html.

GENERAL INFORMATION

Course Number: 2100330

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: AP U.S. HIST

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced Placement (AP)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: United States History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

African-American History (#2100335) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s.

SS.912.A.5.6:	**Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.2.9:	Identify the expansion of civil rights and liberties by examining the principles contained in primary documents. **Clarifications:** Examples are Preamble, Declaration of Independence, Constitution, Emancipation Proclamation, 13th, 14th, 15th, 19th, 24th, and 26th Amendments, Voting Rights Act of 1965.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.W.4.14:	Recognize the practice of slavery and other forms of forced labor experienced during the 13th through 17th centuries in East Africa, West Africa, Europe, Southwest Asia, and the Americas.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.

LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending

MAFS.K12.MP.1.1:	on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.1.3:	Evaluate how environment and personal health are interrelated. **Clarifications:** Food options within a community; prenatal-care services; availability of recreational facilities; air quality; weather-safety awareness; and weather, air, and water conditions.

General Course Information and Notes

GENERAL NOTES

This course consists of the following content area strands: World History, United States History, Geography, Humanities, Civics and Government. The primary content emphasis for this course pertains to the study of the chronological development of African-Americans by examining the political, economic, social, religious, military and cultural events that affected the cultural group. Content will include, but is not limited to, West African heritage, the Middle Passage and Triangular Trade, the African Diaspora, significant turning points and trends in the development of African-American culture and institutions, enslavement and emancipation, the Abolition, Black Nationalist, and Civil Rights movements, major historical figures and events in African-American history, and contemporary African-American affairs.

Mathematics Benchmark Guidance - Social studies instruction should include opportunites for students to interpret and create representations of historical events and concepts using mathematical tables, charts and graphs.

Instructional Practices - Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support,

students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

GENERAL INFORMATION

Course Number: 2100335

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: AFRICAN-AMER HISTORY

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

African-American History Honors (#2100336) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.3.8:	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.9:	Describe the rationale for the formation of the United Nations, including the contribution of Mary McLeod Bethune. **Clarifications:** Examples may include, but are not limited to, the Declaration of Human Rights. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights.

SS.912.A.7.5:	**Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.17:	Examine key events and key people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.2.9:	Identify the expansion of civil rights and liberties by examining the principles contained in primary documents. **Clarifications:** Examples are Preamble, Declaration of Independence, Constitution, Emancipation Proclamation, 13th, 14th, 15th, 19th, 24th, and 26th Amendments, Voting Rights Act of 1965.
SS.912.C.3.10:	Evaluate the significance and outcomes of landmark Supreme Court cases. **Clarifications:** Examples are Marbury v. Madison, Plessy v. Ferguson, Brown v. Board of Education, Gideon v. Wainwright, Miranda v. Arizona, Tinker v. Des Moines, Hazelwood v. Kuhlmeier, United States v. Nixon, Roe v. Wade, Bush v. Gore, Texas v. Johnson, Mapp v. Ohio, McCulloch v. Maryland, District of Columbia v. Heller.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.

SS.912.E.2.3:	Research contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.P.10.1:	Define culture and diversity.
SS.912.P.10.3:	Discuss the relationship between culture and conceptions of self and identity.
SS.912.P.10.4:	Discuss psychological research examining race and ethnicity.
SS.912.P.10.6:	Discuss how privilege and social power structures relate to stereotypes, prejudice, and discrimination.
SS.912.P.10.12:	Examine how perspectives affect stereotypes and treatment of minority and majority groups in society.
SS.912.S.1.4:	Examine changing points of view of social issues, such as poverty, crime and discrimination.
SS.912.S.2.1:	Define the key components of a culture, such as knowledge, language and communication, customs, values, norms, and physical objects.
SS.912.S.2.6:	Identify the factors that promote cultural diversity within the United States.
SS.912.S.2.9:	Prepare original written and oral reports and presentations on specific events, people or historical eras.
SS.912.S.4.10:	Distinguish the degree of assimilation that ethnic, cultural, and social groups achieve with the United States culture. **Clarifications:** Examples may include, but are not limited to, forced vs. voluntary assimilations, association with different groups, interaction within a cultural community, adaptation within families due to education.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.4.14:	Recognize the practice of slavery and other forms of forced labor experienced during the 13th through 17th centuries in East Africa, West Africa, Europe, Southwest Asia, and the Americas.
SS.912.W.4.15:	Explain the origins, developments, and impact of the trans-Atlantic slave trade between West Africa and the Americas.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★

MAFS.912.S-ID.1.2:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

The grade 9-12 African-American History Honors course consists of the following content area strands: World History, American History, Geography, Humanities, Civics and Government. The primary content emphasis for this course pertains to the study of the chronological development of African Americans by examining the political, economic, social, religious, military and cultural events that affected the cultural group. Content will include, but is not limited to, West African heritage, the Middle Passage and Triangular Trade, the African Diaspora, significant turning points and trends in the development of African American culture and institutions, enslavement and emancipation, the Abolition, Black Nationalist, and Civil Rights movements, major historical figures and events in African-American history, and contemporary African-American affairs.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance: Social studies instruction should include opportunities for students to interpret and create representations of historical events and

concepts using mathematical tables, charts and graphs.

Instructional Practices: Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning: Reading assignments from longer text passages as well as shorter ones when text is extremely complex.

1. Making close reading and rereading of texts central to lessons.
2. Asking high-level, text specific questions and requiring high-level, complex tasks and assignments.
3. Requiring students to support answers with evidence from the text.
4. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section: Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf.

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

GENERAL INFORMATION

Course Number: 2100336

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: AFR-AMER HIST HON

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12,30,31

Educator Certifications

Social Science (Grades 5-9)
History (Grades 6-12)
Social Science (Grades 6-12)

African-American History (#2100340) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.3.8:	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.9:	Describe the rationale for the formation of the United Nations, including the contribution of Mary McLeod Bethune. **Clarifications:** Examples may include, but are not limited to, the Declaration of Human Rights. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights.

SS.912.A.7.5:	**Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.17:	Examine key events and key people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.2.9:	Identify the expansion of civil rights and liberties by examining the principles contained in primary documents. **Clarifications:** Examples are Preamble, Declaration of Independence, Constitution, Emancipation Proclamation, 13th, 14th, 15th, 19th, 24th, and 26th Amendments, Voting Rights Act of 1965.
SS.912.C.3.10:	Evaluate the significance and outcomes of landmark Supreme Court cases. **Clarifications:** Examples are Marbury v. Madison, Plessy v. Ferguson, Brown v. Board of Education, Gideon v. Wainwright, Miranda v. Arizona, Tinker v. Des Moines, Hazelwood v. Kuhlmeier, United States v. Nixon, Roe v. Wade, Bush v. Gore, Texas v. Johnson, Mapp v. Ohio, McCulloch v. Maryland, District of Columbia v. Heller.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.

SS.912.E.2.3:	Research contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.4.14:	Recognize the practice of slavery and other forms of forced labor experienced during the 13th through 17th centuries in East Africa, West Africa, Europe, Southwest Asia, and the Americas.
SS.912.W.4.15:	Explain the origins, developments, and impact of the trans-Atlantic slave trade between West Africa and the Americas.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively

	incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**

MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

African-American History - The grade 9-12 African-American History course consists of the following content area strands: World History, American History, Geography, Humanities, Civics and Government. The primary content emphasis for this course pertains to the study of the chronological development of African Americans by examining the political, economic, social, religious, military and cultural events that affected the cultural group. Content will include, but is not limited to, West African heritage, the Middle Passage and Triangular Trade, the African Diaspora, significant turning points and trends in the development of African American culture and institutions, enslavement and emancipation, the Abolition, Black Nationalist, and Civil Rights movements, major historical figures and events in African-American history, and contemporary African-American affairs.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices:
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

Additional Instructional Resources:
Kinsey Collection: thekinseycollection.com/the-kinsey-collection-on-itunes-u/

GENERAL INFORMATION

Course Number: 2100340

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: AFRICAN-AMER HIST

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

Great Men and Women of Color Who Shaped World History (#2100345) 2017 - 2022 (current)

Course Standards

Name	Description
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.SL.2.6:	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.3:	Examine the changing status of women in the United States from post-World War II to present. **Clarifications:** Examples may include, but are not limited to, increased numbers of women in the workforce, Civil Rights Act of 1964, *The Feminine Mystique*, National Organization for Women, *Roe v. Wade,* Equal Rights Amendment, Title IX, Betty Freidan, Gloria Steinem, Phyllis Schlafly, Billie Jean King, feminism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956,

SS.912.A.7.7:	March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.6.4:	Describe the 19th and early 20th century social and political reforms and reform movements and their effects in Africa, Asia, Europe, the United States, the Caribbean, and Latin America. **Clarifications:** Examples are Meiji Reforms, abolition of slavery in the British Empire, expansion of women's rights, labor laws.
SS.912.W.8.7:	Compare post-war independence movements in African, Asian, and Caribbean countries.
SS.912.W.8.9:	Analyze the successes and failures of democratic reform movements in Africa, Asia, the Caribbean, and Latin America.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.

General Course Information and Notes

VERSION DESCRIPTION

This course examines world history through the contributions of individuals. Students will learn about specific men and women of color who have shaped the world and changed the course of history. Students will understand that the development of our society was made possible through the efforts and contributions of people of various ethnicities. Students will study biographical accounts of individuals and learn how these historical figures have shaped the history, culture and politics of our society.

Students will be introduced to men and women of color who have made valuable contributions to world history. Many scholars have recognized these historical figures and how their legacies can inspire students.

Though the focal point of this course is studying biographical accounts of historical figures, the larger goal is that students appreciate the contributions of men and women of color in a larger context of world history. Students will synthesize the information they learn and develop an understanding of how the past affects the present. Assignments should be designed to emphasize more than historical figures and dates, but examine how these figures and dates created a shift in our historical progression. Assignments should help foster critical thinking, analytical and inference skills.

GENERAL NOTES

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course

standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development (ELD) Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SI.pdf.

GENERAL INFORMATION

Course Number: 2100345

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >
Abbreviated Title: MEN/WOMEN WORLD HIST

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Educator Certifications

Social Science (Grades 6-12)
History (Grades 6-12)

Florida History (#2100350) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.1:	Analyze the economic challenges to American farmers and farmers' responses to these challenges in the mid to late 1800s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, creation of agricultural colleges, Morrill Land Grant Act, gold standard and Bimetallism, the creation of the Populist Party.

SS.912.A.3.2:	Examine the social, political, and economic causes, course, and consequences of the second Industrial Revolution that began in the late 19th century. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.3:	Compare the first and second Industrial Revolutions in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, trade, development of new industries.
SS.912.A.3.4:	Determine how the development of steel, oil, transportation, communication, and business practices affected the United States economy. **Clarifications:** Examples may include, but are not limited to, railroads, the telegraph, pools, holding companies, trusts, corporations, contributed to westward expansion, expansion of trade and development of new industries, vertical and horizontal integration. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.6:	Analyze changes that occurred as the United States shifted from agrarian to an industrial society. **Clarifications:** Examples may include, but are not limited to, Social Darwinism, laissez-faire, government regulations of food and drugs, migration to cities, urbanization, changes to the family structure, Ellis Island, angel Island, push-pull factors. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.13:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the railroad industry, bridge construction in the Florida Keys, the cattle industry, the cigar industry, the influence of Cuban, Greek and Italian immigrants, Henry B. Plant, William Chipley, Henry Flagler, George Proctor, Thomas DeSaille Tucker, Hamilton Disston. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.9:	Describe the rationale for the formation of the United Nations, including the contribution of Mary McLeod Bethune. **Clarifications:** Examples may include, but are not limited to, the Declaration of Human Rights. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-

SS.912.A.7.6:	Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.2.9:	Identify the expansion of civil rights and liberties by examining the principles contained in primary documents. **Clarifications:** Examples are Preamble, Declaration of Independence, Constitution, Emancipation Proclamation, 13th, 14th, 15th, 19th, 24th, and 26th Amendments, Voting Rights Act of 1965.
SS.912.C.2.10:	Monitor current public issues in Florida. **Clarifications:** Examples are On-line Sunshine, media, e-mails to government officials, political text messaging.
SS.912.C.2.11:	Analyze public policy solutions or courses of action to resolve a local, state, or federal issue.
SS.912.C.3.10:	Evaluate the significance and outcomes of landmark Supreme Court cases. **Clarifications:** Examples are Marbury v. Madison, Plessy v. Ferguson, Brown v. Board of Education, Gideon v. Wainwright, Miranda v. Arizona, Tinker v. Des Moines, Hazelwood v. Kuhlmeier, United States v. Nixon, Roe v. Wade, Bush v. Gore, Texas v. Johnson, Mapp v. Ohio, McCulloch v. Maryland, District of Columbia v. Heller.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.E.2.3:	Research contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.

SS.912.G.2.4:	Use geographic terms and tools to analyze case studies of how selected regions change over time.
SS.912.G.2.5:	Use geographic terms and tools to analyze case studies of debates over how human actions modify a selected region. **Clarifications:** Examples are mining, drilling, farming, housing.
SS.912.G.3.1:	Use geographic terms to locate and describe major ecosystems of Earth.
SS.912.G.3.2:	Use geographic terms and tools to explain how weather and climate influence the natural character of a place.
SS.912.G.3.3:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in Florida, the United States, and the world.
SS.912.G.3.4:	Use geographic terms and tools to explain how the Earth's internal changes and external changes influence the character of places. **Clarifications:** Examples of internal are volcanic activity, folding. Examples of external are erosion, water cycle.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.5:	Use geographic terms and tools to analyze case studies of the development, growth, and changing nature of cities and urban centers.
SS.912.G.4.6:	Use geographic terms and tools to predict the effect of a change in a specific characteristic of a place on the human population of that place.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.8:	Use geographic concepts to analyze spatial phenomena and to discuss economic, political, and social factors that define and interpret space.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.4.11:	Summarize the causes that led to the Age of Exploration, and identify major voyages and sponsors.
SS.912.W.4.12:	Evaluate the scope and impact of the Columbian Exchange on Europe, Africa, Asia, and the Americas.
SS.912.W.4.13:	Examine the various economic and political systems of Portugal, Spain, the Netherlands, France, and England in the Americas.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
	Make sense of problems and persevere in solving them.

MAFS.K12.MP.1.1:	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

Florida History - The grade 9-12 Florida History course consists of the following content area strands: World History, American History, Geography, Humanities, Civics and Government. The primary content emphasis for this course pertains to the study of the chronological development of the state of Florida by examining the political, economic, social, military and cultural events that affected the state. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the progression of Florida including, but not limited to, the evolution of Florida's diverse heritage through Spanish, French, British and American occupations, Florida's Native American population, United States annexation and territorial experience, statehood and an analysis of Florida's first constitution, Florida's system of slavery, Florida under the Confederacy and Reconstruction, Florida's role as a part of the new South, technological and urban transformations of the state, the evolution of Florida lifestyles and ideals over the centuries, the historic evolution of the Florida economy, Florida's diverse geographic regions and population groups, state government, modern day Florida's successes and challenges, and the projection of Florida's future development.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices:
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100350

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: FLORIDA HIST

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 5-9)
Social Science (Grades 6-12)

History and Contributions of Haiti in a Global Context (#2100355) 2020 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.3:	Analyze the impact of the Holocaust during World War II on Jews as well as other groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.4:	Examine efforts to expand or contract rights for various populations during World War II. **Clarifications:** Examples may include, but are not limited to, women, African Americans, German Americans, Japanese Americans and their internment, Native Americans, Hispanic Americans, Italian Americans. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale].

	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.4.2:	Evaluate the influence of American foreign policy on other nations and the influences of other nations on American policies and society.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.C.4.4:	Compare indicators of democratization in multiple countries.
SS.912.E.3.1:	Demonstrate the impact of inflation on world economies. **Clarifications:** Examples are oil prices, 1973 oil crisis, Great Depression, World War II.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.H.3.3:	Identify contributions made by various world cultures through trade and communication, and form a hypothesis on future contributions and changes.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.4.12:	Evaluate the scope and impact of the Columbian Exchange on Europe, Africa, Asia, and the Americas.
SS.912.W.4.14:	Recognize the practice of slavery and other forms of forced labor experienced during the 13th through 17th centuries in East Africa, West Africa, Europe, Southwest Asia, and the Americas.
SS.912.W.4.15:	Explain the origins, developments, and impact of the trans-Atlantic slave trade between West Africa and the Americas.
SS.912.W.5.4:	Evaluate the impact of Enlightenment ideals on the development of economic, political, and religious structures in the Western world.
SS.912.W.5.6:	Summarize the important causes, events, and effects of the French Revolution including the rise and rule of Napoleon.
SS.912.W.5.7:	Describe the causes and effects of 19th Latin American and Caribbean independence movements led by people including Bolivar, de San Martin, and L' Ouverture.
SS.912.W.6.4:	Describe the 19th and early 20th century social and political reforms and reform movements and their effects in Africa, Asia, Europe, the United States, the Caribbean, and Latin America. **Clarifications:** Examples are Meiji Reforms, abolition of slavery in the British Empire, expansion of women's rights, labor laws.

SS.912.W.7.8:	Explain the causes, events, and effects of the Holocaust (1933-1945) including its roots in the long tradition of anti-Semitism, 19th century ideas about race and nation, and Nazi dehumanization of the Jews and other victims.
SS.912.W.8.4:	Summarize the causes and effects of the arms race and proxy wars in Africa, Asia, Latin America, and the Middle East.
SS.912.W.8.7:	Compare post-war independence movements in African, Asian, and Caribbean countries.
SS.912.W.8.9:	Analyze the successes and failures of democratic reform movements in Africa, Asia, the Caribbean, and Latin America.
LAFS.1112.RL.3.7:	Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grades 11–12 Reading standards to literature (e.g., "Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics"). b. Apply grades 11–12 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., The Federalist, presidential addresses]").
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.

General Course Information and Notes

GENERAL NOTES

This course consists of the following content area strands: History of the Republic of Haiti, Human Geography, and Humanities. The primary content emphasis for this course pertains to the study of Haiti history from the arrival of Christopher Columbus in 1492 to the present day. Students will be exposed to the historical, geographic, political, economics, and sociological events which influenced the development of the Republic of Haiti and the resulting impact on world history. At the conclusion of this course, students will be able to understand and discuss how Haiti changed the course of history on a global scale.

GENERAL INFORMATION

Course Number: 2100355

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >

Abbreviated Title: HIST/CONTRIB HAITI

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Educator Certifications

Social Science (Grades 6-12)

Latin American History (#2100360) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.4:	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction. **Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.C.4.4:	Compare indicators of democratization in multiple countries.

SS.912.E.3.1:	Demonstrate the impact of inflation on world economies. **Clarifications:** Examples are oil prices, 1973 oil crisis, Great Depression, World War II.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.3.15:	Analyze the legacies of the Olmec, Zapotec, and Chavin on later Meso and South American civilizations.
SS.912.W.3.16:	Locate major civilizations of Mesoamerica and Andean South America. **Clarifications:** Examples are Maya, Aztec, Inca.
SS.912.W.3.17:	Describe the roles of people in the Maya, Inca, and Aztec societies. **Clarifications:** Examples are class structure, family life, warfare, religious beliefs and practices, slavery.
SS.912.W.3.18:	Compare the key economic, cultural, and political characteristics of the major civilizations of Meso and South America. **Clarifications:** Examples are agriculture, architecture, astronomy, literature, mathematics, trade networks, government.
SS.912.W.3.19:	Determine the impact of significant Meso and South American rulers such as Pacal the Great, Moctezuma I, and Huayna Capac.
SS.912.W.4.11:	Summarize the causes that led to the Age of Exploration, and identify major voyages and sponsors.
SS.912.W.4.12:	Evaluate the scope and impact of the Columbian Exchange on Europe, Africa, Asia, and the Americas.
SS.912.W.4.13:	Examine the various economic and political systems of Portugal, Spain, the Netherlands, France, and England in the Americas.
SS.912.W.4.14:	Recognize the practice of slavery and other forms of forced labor experienced during the 13th through 17th centuries in East Africa, West Africa, Europe, Southwest Asia, and the Americas.
SS.912.W.4.15:	Explain the origins, developments, and impact of the trans-Atlantic slave trade between West Africa and the Americas.
SS.912.W.5.7:	Describe the causes and effects of 19th Latin American and Caribbean independence movements led by people including Bolivar, de San Martin, and L' Ouverture.

SS.912.W.6.4:	Describe the 19th and early 20th century social and political reforms and reform movements and their effects in Africa, Asia, Europe, the United States, the Caribbean, and Latin America. **Clarifications:** Examples are Meiji Reforms, abolition of slavery in the British Empire, expansion of women's rights, labor laws.
SS.912.W.8.4:	Summarize the causes and effects of the arms race and proxy wars in Africa, Asia, Latin America, and the Middle East.
SS.912.W.8.7:	Compare post-war independence movements in African, Asian, and Caribbean countries.
SS.912.W.8.8:	Describe the rise and goals of nationalist leaders in the post-war era and the impact of their rule on their societies. **Clarifications:** Examples are Mahatma Ghandi, Fidel Castro, Gamal Abdel Nasser, Francois 'Papa Doc' Duvalier, Jawaharlal Nehru.
SS.912.W.8.9:	Analyze the successes and failures of democratic reform movements in Africa, Asia, the Caribbean, and Latin America.
SS.912.W.9.4:	Describe the causes and effects of twentieth century nationalist conflicts. **Clarifications:** Examples are Cyprus, Kashmir, Tibet, Northern Ireland.
SS.912.W.9.5:	Assess the social and economic impact of pandemics on a global scale, particularly within the developing and under-developed world.
SS.912.W.9.6:	Analyze the rise of regional trade blocs such as the European Union and NAFTA, and predict the impact of increased globalization in the 20th and 21st centuries.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify

	relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

Latin American History - The grade 9-12 Latin American History course consists of the following content area strands: World History, American History, Geography, Humanities, Civics and Government. The primary content emphasis for this course pertains to the study of the chronological development development of the Latin American people by examining the history and culture of the region with emphasis on the Caribbean Basin, Central America and South America. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the progression of Latin America including, but not limited to, indigenous Native American population prior to the arrival of the Europeans, Spanish heritage, influence and impact of the Catholic Church on Latin American cultures, evolution of political systems and philosophies in Latin American societies, interaction of science and Latin American cultures, Latin American nationalism, origin and course of economic systems and philosophies in Latin American societies, influence of major historical figures and events in Latin American history, and contemporary Latin American affairs.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence)

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100360

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >
Abbreviated Title: LATIN AMER HIST

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Latin American Studies Honors (#2100362) 2020 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.3.10:	Review different economic and philosophic ideologies. **Clarifications:** Economic examples may include, but are not limited to, market economy, mixed economy, planned economy and philosophic examples are capitalism, socialism, communism, anarchy. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.4:	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction. **Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.16:	Examine changes in immigration policy and attitudes toward immigration since 1950. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.2.4:	Evaluate, take, and defend positions on issues that cause the government to balance the interests of individuals with the public good.
SS.912.C.2.13:	Analyze various forms of political communication and evaluate for bias, factual accuracy, omission, and emotional appeal. **Clarifications:** Examples are political cartoons, propaganda, campaign advertisements, political speeches, electronic bumper stickers, blogs, media.
SS.912.C.4.1:	Explain how the world's nations are governed differently.
SS.912.C.4.2:	Evaluate the influence of American foreign policy on other nations and the influences of other nations on American policies and society.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.C.4.4:	Compare indicators of democratization in multiple countries.
SS.912.E.1.3:	Compare how the various economic systems (traditional, market, command, mixed) answer the questions: (1) What to produce?; (2) How to produce?; and (3) For whom to produce?
SS.912.E.1.4:	Define supply, demand, quantity supplied,and quantity demanded; graphically illustrate situations that would cause changes in each, and demonstrate how the equilibrium price of a product is determined by the interaction of supply and demand in the market place.

SS.912.E.1.10:	Explain the use of fiscal policy (taxation, spending) to promote price stability, full employment, and economic growth.
SS.912.E.2.1:	Identify and explain broad economic goals. **Clarifications:** Examples are freedom, efficiency, equity, security, growth, price stability, full employment.
SS.912.E.2.7:	Identify the impact of inflation on society.
SS.912.E.3.1:	Demonstrate the impact of inflation on world economies. **Clarifications:** Examples are oil prices, 1973 oil crisis, Great Depression, World War II.
SS.912.E.3.2:	Examine absolute and comparative advantage, and explain why most trade occurs because of comparative advantage.
SS.912.E.3.3:	Discuss the effect of barriers to trade and why nations sometimes erect barriers to trade or establish free trade zones. **Clarifications:** Examples are NAFTA, CAFTA. Examples are quotas, tariffs.
SS.912.E.3.4:	Assess the economic impact of negative and positive externalities on the international environment. **Clarifications:** Examples of negative are pollution, global warming. Examples of positive are pure water, better air quality.
SS.912.E.3.5:	Compare the current United States economy with other developed and developing nations. **Clarifications:** Examples are standard of living, exchange rates, productivity, gross domestic product.
SS.912.FL.1.2:	Explain that people vary in their willingness to obtain more education or training because these decisions involve incurring immediate costs to obtain possible future benefits. Describe how discounting the future benefits of education and training may lead some people to pass up potentially high rates of return that more education and training may offer. **Clarifications:** Explain how people's willingness to wait or plan for the future affects their decision to get more education or job training in a dynamic and changing labor market. Speculate how a high school student might assess the future benefits of going to college, and describe how that assessment will affect the student's decision to attend college.
SS.912.FL.1.5:	Discuss reasons why changes in economic conditions or the labor market can cause changes in a worker's income or may cause unemployment. **Clarifications:** Explain how an increase in the demand for mobile applications might impact the wages paid to software developers. Explain the effects of a recession on the unemployment rate.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.3.3:	Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in Florida, the United States, and the world.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.4:	Use geographic terms and tools to analyze case studies of issues in globalization. **Clarifications:** Examples are cultural imperialism, outsourcing.
SS.912.H.1.1:	Relate works in the arts (architecture, dance, music, theatre, and visual arts) of varying styles and genre according to the periods in which they were created. **Clarifications:** Examples are Bronze Age, Ming Dynasty, Classical, Renaissance, Modern, and Contemporary.
SS.912.H.1.2:	Describe how historical events, social context, and culture impact forms, techniques, and purposes of works in the arts, including the relationship between a government and its citizens. **Clarifications:** Examples are imperial Roman sculpture; Palace of Versailles; Picasso's Guernica; layout of Washington, DC.
SS.912.H.1.3:	Relate works in the arts to various cultures. **Clarifications:** Examples are African, Asian, Oceanic, European, the Americas, Middle Eastern, Egyptian, Greek, Roman.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.

SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.
SS.912.H.1.6:	Analyze how current events are explained by artistic and cultural trends of the past.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.P.6.3:	Distinguish methods used to study development. **Clarifications:** Examples may include, but are not limited to, cross-sectional research, longitudinal research, data collection, observation, case studies, questionnaires, and experimentation.
SS.912.P.8.1:	Describe the structure and function of language. **Clarifications:** Topics may include, but are not limited to, phoneme, morpheme, and grammar.
SS.912.P.16.11:	Analyze how individualistic and collectivistic cultural perspectives relate to personality.
SS.912.S.1.4:	Examine changing points of view of social issues, such as poverty, crime and discrimination.
SS.912.S.1.6:	Distinguish fact from opinion in data sources to analyze various points of view about a social issue.
SS.912.S.1.8:	Identify, evaluate and use appropriate reference materials and technology to interpret information about cultural life in the United States and other world cultures, both in the past and today.
SS.912.S.2.1:	Define the key components of a culture, such as knowledge, language and communication, customs, values, norms, and physical objects.
SS.912.S.2.2:	Explain the differences between a culture and a society.
SS.912.S.2.3:	Recognize the influences of genetic inheritance and culture on human behavior.
SS.912.S.2.4:	Give examples of subcultures and describe what makes them unique.
SS.912.S.2.5:	Compare social norms among various subcultures.
SS.912.S.2.7:	Explain how various practices of the culture create differences within group behavior.
SS.912.S.2.8:	Compare and contrast different types of societies, such as hunting and gathering, agrarian, industrial, and post-industrial.
SS.912.S.2.9:	Prepare original written and oral reports and presentations on specific events, people or historical eras.
SS.912.S.3.1:	Describe how social status affects social order. **Clarifications:** Examples may include, but are not limited to, upper class, middle class, lower class, professional, blue collar, and unemployed.
SS.912.S.3.2:	Explain how roles and role expectations can lead to role conflict. **Clarifications:** Examples may include, but are not limited to, gender roles, age, racial and ethnic groups within different societies.
SS.912.S.3.3:	Examine and analyze various points of view relating to historical and current events.
SS.912.S.4.1:	Describe how individuals are affected by the different social groups to which they belong.
SS.912.S.4.2:	Identify major characteristics of social groups familiar to the students.
SS.912.S.4.6:	Identify the various types of norms (folkways, mores, laws, and taboos) and explain why these rules of behavior are considered important to society.
SS.912.S.4.12:	Determine the cultural patterns of behavior within such social groups as rural/urban or rich/poor.
SS.912.S.5.2:	Discuss the concept of political power and factors that influence political power. **Clarifications:** Examples may include, but are not limited to, social class, racial and ethnic group memberships, cultural group, gender, and age.
SS.912.S.5.5:	Define ethnocentrism and explain how it can be beneficial or destructive to a culture.
SS.912.S.5.6:	Identify the factors that influence change in social norms over time.
SS.912.S.5.9:	Conduct research and analysis on an issue associated with social structure or social institutions.
SS.912.S.6.1:	Describe how and why societies change over time.
SS.912.S.6.2:	Examine various social influences that can lead to immediate and long-term changes. **Clarifications:** Examples may include, but are not limited to, natural and man-made disasters, spatial movement of people, technology, urbanization, industrialization, immigration, war, challenge to authority, laws, diffusion of cultural traits, discrimination, discoveries and inventions, and scientific exploration.
SS.912.S.6.8:	Investigate the consequences in society as result of changes.
SS.912.S.7.2:	Describe how social problems have changed over time. **Clarifications:** Examples may include, but are not limited to, juvenile delinquency, crime, poverty, and discrimination.
SS.912.S.7.3:	Explain how patterns of behavior are found with certain social problems. **Clarifications:** Examples may include, but are not limited to, juvenile offenses, such as gang membership, crime, sexual behavior, and teen pregnancy, are found in the histories of adult criminals.
SS.912.S.8.7:	Define propaganda and discuss the methods of propaganda and discuss the methods of propaganda used to influence social behavior. **Clarifications:** Examples may include, but are not limited to, news media and advertisements.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
	Evaluate the role of history in shaping identity and character.

SS.912.W.1.6:	**Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.2.13:	Explain how Western civilization arose from a synthesis of classical Greco-Roman civilization, Judeo-Christian influence, and the cultures of northern European peoples promoting a cultural unity in Europe.
SS.912.W.2.16:	Trace the growth and development of a national identity in the countries of England, France, and Spain.
SS.912.W.3.1:	Discuss significant people and beliefs associated with Islam. **Clarifications:** Examples are the prophet Muhammad, the early caliphs, the Pillars of Islam, Islamic law, the relationship between government and religion in Islam.
SS.912.W.3.2:	Compare the major beliefs and principles of Judaism, Christianity, and Islam.
SS.912.W.3.13:	Compare economic, political, and social developments in East, West, and South Africa.
SS.912.W.4.12:	Evaluate the scope and impact of the Columbian Exchange on Europe, Africa, Asia, and the Americas.
SS.912.W.4.14:	Recognize the practice of slavery and other forms of forced labor experienced during the 13th through 17th centuries in East Africa, West Africa, Europe, Southwest Asia, and the Americas.
SS.912.W.4.15:	Explain the origins, developments, and impact of the trans-Atlantic slave trade between West Africa and the Americas.
SS.912.W.5.4:	Evaluate the impact of Enlightenment ideals on the development of economic, political, and religious structures in the Western world.
SS.912.W.6.4:	Describe the 19th and early 20th century social and political reforms and reform movements and their effects in Africa, Asia, Europe, the United States, the Caribbean, and Latin America. **Clarifications:** Examples are Meiji Reforms, abolition of slavery in the British Empire, expansion of women's rights, labor laws.
SS.912.W.8.9:	Analyze the successes and failures of democratic reform movements in Africa, Asia, the Caribbean, and Latin America.
SS.912.W.9.2:	Describe the causes and effects of post-World War II economic and demographic changes. **Clarifications:** Examples are medical and technological advances, free market economics, increased consumption of natural resources and goods, rise in expectations for standards of living.
SS.912.W.9.3:	Explain cultural, historical, and economic factors and governmental policies that created the opportunities for ethnic cleansing or genocide in Cambodia, the Balkans, Rwanda, and Darfur, and describe various governmental and non-governmental responses to them. **Clarifications:** Examples are prejudice, racism, stereotyping, economic competition.
LAFS.1112.L.2.3:	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. a. Vary syntax for effect, consulting references (e.g., Tufte's Artful Sentences) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.
LAFS.1112.L.3.4:	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
LAFS.1112.L.3.6:	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
LAFS.1112.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
LAFS.1112.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
LAFS.1112.RH.1.3:	Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
LAFS.1112.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
LAFS.1112.RH.2.5:	Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
LAFS.1112.RH.2.6:	Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
LAFS.1112.RH.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
LAFS.1112.RH.3.8:	Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
LAFS.1112.RH.3.9:	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
LAFS.1112.RI.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
LAFS.1112.RI.1.2:	Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
LAFS.1112.RI.1.3:	Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
LAFS.1112.RL.1.1:	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

LAFS.1112.RL.1.2:	Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.W.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.W.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.

General Course Information and Notes

GENERAL NOTES

This course consists of the following content area strands: American History, Geography, Economics, World History, Humanities, Civics and Government, Psychology, Sociology, and Financial Literacy. The primary content emphasis for this course pertains to the student of the development of the Latin American identity, along with examinations of the Latin American cultures through in-depth study of literature, sociology, anthropology, economics, and geography. The course will study the commonalities and differences among the peoples and cultures of Latin American and the complex nature of individual, group, national, and international interactions. Students will examine the characteristics that define culture and gain an understanding of the culture of Latin America. Content includes, but is not limited to, interdependence and challenges, culture, international systems and policies, pluralism, transnationalism, cultural diffusion, Latin American economics, human-environment interactions, patterns of language development, poverty, and the effect of change on cultural institutions. Using texts of high complexity, students will develop knowledge of Latin American literature through integrated educational experiences of reading, writing, speaking and analyzing. Emphasis will include representative Latin American literature, with its varied cultural influences, highlighting the major genres, themes, issues, and influences associated with the selections. Other concepts in this class may include indigenous Native American culture prior to the arrival of the Europeans, Spanish heritage, influence and impact of the Catholic Church, evolution of political systems and philosophies in Latin America, Latin American nationalism, and contemporary Latin American affairs.

GENERAL INFORMATION

Course Number: 2100362

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: LATIN AMER STUDIES H

Course Length: Year (Y)

Course Attributes:

- Honors

Course Level: 3

Educator Certifications

Social Science (Grades 6-12)

African History Honors (#2100365) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.E.3.1:	Demonstrate the impact of inflation on world economies. **Clarifications:** Examples are oil prices, 1973 oil crisis, Great Depression, World War II.
SS.912.E.3.3:	Discuss the effect of barriers to trade and why nations sometimes erect barriers to trade or establish free trade zones. **Clarifications:** Examples are NAFTA, CAFTA. Examples are quotas, tariffs.
SS.912.E.3.4:	Assess the economic impact of negative and positive externalities on the international environment. **Clarifications:** Examples of negative are pollution, global warming. Examples of positive are pure water, better air quality.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.

SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.3.1:	Discuss significant people and beliefs associated with Islam. **Clarifications:** Examples are the prophet Muhammad, the early caliphs, the Pillars of Islam, Islamic law, the relationship between government and religion in Islam.
SS.912.W.3.2:	Compare the major beliefs and principles of Judaism, Christianity, and Islam.
SS.912.W.3.3:	Determine the causes, effects, and extent of Islamic military expansion through Central Asia, North Africa, and the Iberian Peninsula.
SS.912.W.3.4:	Describe the expansion of Islam into India and the relationship between Muslims and Hindus.
SS.912.W.3.5:	Describe the achievements, contributions, and key figures associated with the Islamic Golden Age. **Clarifications:** Examples are Al-Ma'mun, Avicenna, Averroes, Algebra, Al-Razi, Alhambra, The Thousand and One Nights.
SS.912.W.3.6:	Describe key economic, political, and social developments in Islamic history. **Clarifications:** Examples are growth of the caliphate, division of Sunni and Shi'a, role of trade, dhimmitude, Islamic slave trade.
SS.912.W.3.7:	Analyze the causes, key events, and effects of the European response to Islamic expansion beginning in the 7th century. **Clarifications:** Examples are Crusades, Reconquista.
SS.912.W.3.9:	Trace the growth of major sub-Saharan African kingdoms and empires. **Clarifications:** Examples are Ghana, Mali, Songhai.
SS.912.W.3.10:	Identify key significant economic, political, and social characteristics of Ghana. **Clarifications:** Examples are salt and gold trade, taxation system, gold monopoly, matrilineal inheritance, griots, ancestral worship, rise of Islam, slavery.
SS.912.W.3.11:	Identify key figures and significant economic, political, and social characteristics associated with Mali. **Clarifications:** Examples are Sundiata, Epic of Sundiata, Mansa Musa, Ibn Battuta, gold mining and salt trade, slavery.
SS.912.W.3.12:	Identify key figures and significant economic, political, and social characteristics associated with Songhai. **Clarifications:** Examples are Sunni Ali, Askia Mohammad the Great, gold, salt trade, cowries as a medium of exchange, Sankore University, slavery, professional army, provincial political structure.
SS.912.W.3.13:	Compare economic, political, and social developments in East, West, and South Africa.
SS.912.W.3.14:	Examine the internal and external factors that led to the fall of the empires of Ghana, Mali, and Songhai. **Clarifications:** Examples are disruption of trade, internal political struggles, Islamic invasions.
SS.912.W.4.12:	Evaluate the scope and impact of the Columbian Exchange on Europe, Africa, Asia, and the Americas.
SS.912.W.4.14:	Recognize the practice of slavery and other forms of forced labor experienced during the 13th through 17th centuries in East Africa, West Africa, Europe, Southwest Asia, and the Americas.
SS.912.W.4.15:	Explain the origins, developments, and impact of the trans-Atlantic slave trade between West Africa and the Americas.
SS.912.W.6.4:	Describe the 19th and early 20th century social and political reforms and reform movements and their effects in Africa, Asia, Europe, the United States, the Caribbean, and Latin America. **Clarifications:** Examples are Meiji Reforms, abolition of slavery in the British Empire, expansion of women's rights, labor laws.
SS.912.W.8.7:	Compare post-war independence movements in African, Asian, and Caribbean countries.
SS.912.W.8.9:	Analyze the successes and failures of democratic reform movements in Africa, Asia, the Caribbean, and Latin America.
SS.912.W.8.10:	Explain the impact of religious fundamentalism in the last half of the 20th century, and identify related events and forces in the Middle East over the last several decades. **Clarifications:** Examples are Iranian Revolution, Mujahideen in Afghanistan, Persian Gulf War.
SS.912.W.9.1:	Identify major scientific figures and breakthroughs of the 20th century, and assess their impact on contemporary life. **Clarifications:** Examples are Marie Curie, Albert Einstein, Enrico Fermi, Sigmund Freud, Wright Brothers, Charles R. Drew, mass vaccination, atomic energy, transistor, microchip, space exploration, Internet, discovery of DNA, Human Genome Project.
	Explain cultural, historical, and economic factors and governmental policies that created the opportunities for ethnic cleansing or genocide in Cambodia,

SS.912.W.9.3:	the Balkans, Rwanda, and Darfur, and describe various governmental and non-governmental responses to them. **Clarifications:** Examples are prejudice, racism, stereotyping, economic competition.
SS.912.W.9.4:	Describe the causes and effects of twentieth century nationalist conflicts. **Clarifications:** Examples are Cyprus, Kashmir, Tibet, Northern Ireland.
SS.912.W.9.5:	Assess the social and economic impact of pandemics on a global scale, particularly within the developing and under-developed world.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.1.1:	Understand statistics as a process for making inferences about population parameters based on a random sample from that population. ★
MAFS.912.S-IC.1.2:	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model* ★
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.912.S-ID.2.5:	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★
MAFS.912.S-ID.2.6:	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★ a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models.* b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. **Clarifications:** Students take a more sophisticated look at using a linear function to model the relationship between two numerical variables. In addition to fitting a line to data, students assess how well the model fits by analyzing residuals.
MAFS.912.S-ID.3.7:	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. ★
MAFS.912.S-ID.3.8:	Compute (using technology) and interpret the correlation coefficient of a linear fit. ★
MAFS.912.S-ID.3.9:	Distinguish between correlation and causation. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze

	graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

The grade 9-12 African History Honors course consists of the following content area strands: World History, American History, Geography, Economics and Humanities. The primary content emphasis for this course pertains to the study of the chronological development of Africa by examining the political, economic, social, religious, military and cultural events that affected the continent. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the progression of the continent including, but not limited to, the physical geography of Africa, prehistory on the African continent, early African civilizations and empires, traditional African religious tradition and cultures, colonialism in Africa, the evolution of political systems and philosophies in African societies and nations, African independence movements and nationalism, major historical figures and events in African history, and contemporary African affairs.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance: Social studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts and graphs.

Instructional Practices: Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section: Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf.

GENERAL INFORMATION

Course Number: 2100365

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: AFRICAN HISTORY HON

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Social Science (Grades 5-9)
History (Grades 6-12)
Social Science (Grades 6-12)

Eastern and Western Heritage (#2100370) 2017 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:**

	Examples are ethnic, cultural, personal, national, religious.
SS.912.W.2.1:	Locate the extent of Byzantine territory at the height of the empire.
SS.912.W.2.2:	Describe the impact of Constantine the Great's establishment of "New Rome" (Constantinople) and his recognition of Christianity as a legal religion.
SS.912.W.2.3:	Analyze the extent to which the Byzantine Empire was a continuation of the old Roman Empire and in what ways it was a departure.
SS.912.W.2.4:	Identify key figures associated with the Byzantine Empire. **Clarifications:** Examples are Justinian the Great, Theodora, Belisarius, John of Damascus, Anna Comnena, Cyril and Methodius.
SS.912.W.2.5:	Explain the contributions of the Byzantine Empire. **Clarifications:** Examples are Justinian's Code, the preservation of ancient Greek and Roman learning and culture, artistic and architectural achievements, the empire's impact on the development of Western Europe, Islamic civilization, and Slavic peoples.
SS.912.W.2.6:	Describe the causes and effects of the Iconoclast controversy of the 8th and 9th centuries and the 11th century Christian schism between the churches of Constantinople and Rome.
SS.912.W.2.7:	Analyze causes (Justinian's Plague, ongoing attacks from the "barbarians," the Crusades, and internal political turmoil) of the decline of the Byzantine Empire.
SS.912.W.2.8:	Describe the rise of the Ottoman Turks, the conquest of Constantinople in 1453, and the subsequent growth of the Ottoman empire under the sultanate including Mehmet the Conqueror and Suleyman the Magnificent.
SS.912.W.2.9:	Analyze the impact of the collapse of the Western Roman Empire on Europe.
SS.912.W.2.10:	Describe the orders of medieval social hierarchy, the changing role of the Church, the emergence of feudalism, and the development of private property as a distinguishing feature of Western Civilization.
SS.912.W.2.11:	Describe the rise and achievements of significant rulers in medieval Europe. **Clarifications:** Examples are Charles Martel, Charlemagne, Otto the Great, William the Conqueror.
SS.912.W.2.12:	Recognize the importance of Christian monasteries and convents as centers of education, charitable and missionary activity, economic productivity, and political power.
SS.912.W.2.13:	Explain how Western civilization arose from a synthesis of classical Greco-Roman civilization, Judeo-Christian influence, and the cultures of northern European peoples promoting a cultural unity in Europe.
SS.912.W.2.14:	Describe the causes and effects of the Great Famine of 1315-1316, The Black Death, The Great Schism of 1378, and the Hundred Years War on Western Europe.
SS.912.W.2.15:	Determine the factors that contributed to the growth of a modern economy. **Clarifications:** Examples are growth of banking, technological and agricultural improvements, commerce, towns, guilds, rise of a merchant class.
SS.912.W.2.16:	Trace the growth and development of a national identity in the countries of England, France, and Spain.
SS.912.W.2.17:	Identify key figures, artistic, and intellectual achievements of the medieval period in Western Europe. **Clarifications:** Examples are Anselm of Canterbury, Chaucer, Thomas Aquinas, Roger Bacon, Hildegard of Bingen, Dante, Code of Chivalry, Gothic architecture, illumination, universities, Natural Law Philosophy, Scholasticism.
SS.912.W.2.18:	Describe developments in medieval English legal and constitutional history and their importance to the rise of modern democratic institutions and procedures. **Clarifications:** Examples are Magna Carta, parliament, habeas corpus.
SS.912.W.2.19:	Describe the impact of Japan's physiography on its economic and political development.
SS.912.W.2.20:	Summarize the major cultural, economic, political, and religious developments in medieval Japan. **Clarifications:** Examples are Pillow Book, Tale of Genji, Shinto and Japanese Buddhism, the rise of feudalism, the development of the shogunate, samurai, and social hierarchy.
SS.912.W.2.21:	Compare Japanese feudalism with Western European feudalism during the Middle Ages.
SS.912.W.2.22:	Describe Japan's cultural and economic relationship to China and Korea.
SS.912.W.3.1:	Discuss significant people and beliefs associated with Islam. **Clarifications:** Examples are the prophet Muhammad, the early caliphs, the Pillars of Islam, Islamic law, the relationship between government and religion in Islam.
SS.912.W.3.2:	Compare the major beliefs and principles of Judaism, Christianity, and Islam.
SS.912.W.3.3:	Determine the causes, effects, and extent of Islamic military expansion through Central Asia, North Africa, and the Iberian Peninsula.
SS.912.W.3.4:	Describe the expansion of Islam into India and the relationship between Muslims and Hindus.
SS.912.W.3.5:	Describe the achievements, contributions, and key figures associated with the Islamic Golden Age. **Clarifications:** Examples are Al-Ma'mun, Avicenna, Averroes, Algebra, Al-Razi, Alhambra, The Thousand and One Nights.
SS.912.W.3.6:	Describe key economic, political, and social developments in Islamic history. **Clarifications:** Examples are growth of the caliphate, division of Sunni and Shi'a, role of trade, dhimmitude, Islamic slave trade.
SS.912.W.3.7:	Analyze the causes, key events, and effects of the European response to Islamic expansion beginning in the 7th century. **Clarifications:** Examples are Crusades, Reconquista.
SS.912.W.3.8:	Identify important figures associated with the Crusades. **Clarifications:**

	Examples are Alexius Comnenus, Pope Urban, Bernard of Clairvaux, Godfrey of Bouillon, Saladin, Richard the Lionheart, Baybars, Louis IX.
SS.912.W.3.9:	Trace the growth of major sub-Saharan African kingdoms and empires. **Clarifications:** Examples are Ghana, Mali, Songhai.
SS.912.W.3.10:	Identify key significant economic, political, and social characteristics of Ghana. **Clarifications:** Examples are salt and gold trade, taxation system, gold monopoly, matrilineal inheritance, griots, ancestral worship, rise of Islam, slavery.
SS.912.W.3.11:	Identify key figures and significant economic, political, and social characteristics associated with Mali. **Clarifications:** Examples are Sundiata, Epic of Sundiata, Mansa Musa, Ibn Battuta, gold mining and salt trade, slavery.
SS.912.W.3.12:	Identify key figures and significant economic, political, and social characteristics associated with Songhai. **Clarifications:** Examples are Sunni Ali, Askia Mohammad the Great, gold, salt trade, cowries as a medium of exchange, Sankore University, slavery, professional army, provincial political structure.
SS.912.W.3.13:	Compare economic, political, and social developments in East, West, and South Africa.
SS.912.W.3.14:	Examine the internal and external factors that led to the fall of the empires of Ghana, Mali, and Songhai. **Clarifications:** Examples are disruption of trade, internal political struggles, Islamic invasions.
SS.912.W.3.15:	Analyze the legacies of the Olmec, Zapotec, and Chavin on later Meso and South American civilizations.
SS.912.W.3.16:	Locate major civilizations of Mesoamerica and Andean South America. **Clarifications:** Examples are Maya, Aztec, Inca.
SS.912.W.3.17:	Describe the roles of people in the Maya, Inca, and Aztec societies. **Clarifications:** Examples are class structure, family life, warfare, religious beliefs and practices, slavery.
SS.912.W.3.18:	Compare the key economic, cultural, and political characteristics of the major civilizations of Meso and South America. **Clarifications:** Examples are agriculture, architecture, astronomy, literature, mathematics, trade networks, government.
SS.912.W.3.19:	Determine the impact of significant Meso and South American rulers such as Pacal the Great, Moctezuma I, and Huayna Capac.
SS.912.W.4.1:	Identify the economic and political causes for the rise of the Italian city-states (Florence, Milan, Naples, Rome, Venice).
SS.912.W.4.2:	Recognize major influences on the architectural, artistic, and literary developments of Renaissance Italy (Classical, Byzantine, Islamic, Western European).
SS.912.W.4.3:	Identify the major artistic, literary, and technological contributions of individuals during the Renaissance. **Clarifications:** Examples are Petrarch, Brunelleschi, Giotto, the Medici Family, Michelangelo, Leonardo da Vinci, Erasmus, Thomas More, Machiavelli, Shakespeare, Gutenberg, El Greco, Artemisia Gentileschi, Van Eyck.
SS.912.W.4.4:	Identify characteristics of Renaissance humanism in works of art. **Clarifications:** Examples are influence of classics, School of Athens.
SS.912.W.4.5:	Describe how ideas from the Middle Ages and Renaissance led to the Scientific Revolution.
SS.912.W.4.6:	Describe how scientific theories and methods of the Scientific Revolution challenged those of the early classical and medieval periods.
SS.912.W.4.7:	Identify criticisms of the Roman Catholic Church by individuals such as Wycliffe, Hus and Erasmus and their impact on later reformers.
SS.912.W.4.8:	Summarize religious reforms associated with Luther, Calvin, Zwingli, Henry VIII, and John of Leyden and the effects of the Reformation on Europe. **Clarifications:** Examples are Catholic and Counter Reformation, political and religious fragmentation, military conflict, expansion of capitalism.
SS.912.W.4.9:	Analyze the Roman Catholic Church's response to the Protestant Reformation in the forms of the Counter and Catholic Reformation. **Clarifications:** Examples are Council of Trent, Thomas More, Ignatius of Loyola and the Jesuits, Teresa of Avila, Charles V.
SS.912.W.4.10:	Identify the major contributions of individuals associated with the Scientific Revolution. **Clarifications:** Examples are Francis Bacon, Nicholas Copernicus, Rene Descartes, Galileo Galilei, Johannes Kepler, Isaac Newton, Blaise Pascal, Vesalius.
SS.912.W.4.11:	Summarize the causes that led to the Age of Exploration, and identify major voyages and sponsors.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.

LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★

MAFS.912.S-ID.1.2:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

Eastern and Western Heritage - The grade 9-12 Eastern and Western Heritage course consists of the following content area strands: World History, American History, Geography, and Humanities. The primary content emphasis for this course pertains to the study of the world's earliest civilizations to the ancient and classical civilizations of Africa, Asia, and Europe. Content will include, but is not limited to, the birth of civilizations throughout the world, including the origins of societies from Mesopotamia, Africa, China, India, and Mesoamerica from the perspective of cultural geography, growth, dissemination, and decline of four classic civilizations of India, China, Greece, and Rome, the role of isolation and interaction in the development of the Byzantine Empire, African and Mesoamerican civilizations, India, China, Japan, and Europe, and the emergence of social, political, economic, and religious institutions and ideas.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and

concepts using mathematical tables, charts, and graphs.

Instructional Practices
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100370

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >
Abbreviated Title: EAST & WEST HERITAGE

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Visions and Their Pursuits:An American Tradition-U.S.History to 1920 (#2100380) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.3:	Describe the issues that divided Republicans during the early Reconstruction era. **Clarifications:** Examples may include, but are not limited to, the impeachment of Andrew Johnson, southern whites, blacks, black legislators and white extremist organizations such as the KKK, Knights of the White Camellia, The White League, Red Shirts, and Pale Faces. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.2:	Examine the social, political, and economic causes, course, and consequences of the second Industrial Revolution that began in the late 19th century. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.4:	Determine how the development of steel, oil, transportation, communication, and business practices affected the United States economy. **Clarifications:** Examples may include, but are not limited to, railroads, the telegraph, pools, holding companies, trusts, corporations, contributed to westward expansion, expansion of trade and development of new industries, vertical and horizontal integration. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.6:	Analyze changes that occurred as the United States shifted from agrarian to an industrial society. **Clarifications:** Examples may include, but are not limited to, Social Darwinism, laissez-faire, government regulations of food and drugs, migration to cities, urbanization, changes to the family structure, Ellis Island, angel Island, push-pull factors. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.7:	Compare the experience of European immigrants in the east to that of Asian immigrants in the west (the Chinese Exclusion Act, Gentlemen's Agreement with Japan). **Clarifications:** Examples may include, but are not limited to nativism, integration of immigrants into society when comparing "Old" [before 1890] and "New" immigrants [after 1890], Immigration Act of 1924. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.8:	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.9:	Examine causes, course, and consequences of the labor movement in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but are not limited to, unions, Knights of Labor, american Federation of Labor, socialist Party, labor laws. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.10:	Review different economic and philosophic ideologies. **Clarifications:** Economic examples may include, but are not limited to, market economy, mixed economy, planned economy and philosophic examples are capitalism, socialism, communism, anarchy. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.11:	Analyze the impact of political machines in United States cities in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but aren ot limited to, Boss Tweed, Tammany Hall, George Washington Plunkitt, Washington Gladden, Thomas Nast. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.12:	Compare how different nongovernmental organizations and progressives worked to shape public policy, restore economic opportunities, and correct injustices in American life. **Clarifications:** Examples may include, but are not limited to, NAACP, YMCA, Women's Christian Temperance Union, National Women's Suffrage Association, National Women's Party, Robert LaFollette, Florence Kelley, Ida M. Tarbell, Eugene Debs, Carrie Chapman Catt, Alice Paul, Theodore Roosevelt, William Taft, Woodrow Wilson, Upton Sinclair, Booker T. Washington, W.E.B. DuBois, Gifford Pinchot, William Jennings Bryan. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.13:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the railroad industry, bridge construction in the Florida Keys, the cattle industry, the cigar industry, the influence of Cuban, Greek and Italian immigrants, Henry B. Plant, William Chipley, Henry Flagler, George Proctor, Thomas DeSaille Tucker, Hamilton Disston. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.1:	Analyze the major factors that drove United States imperialism. **Clarifications:** Examples may include, but are not limited to, the Monroe Doctrine, Manifest Destiny, *The Influence of Sea Power Upon History, Turner's thesis,the Roosevelt Corollary, natural resources, markets for resources, elimination of spheres of influence in China.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.2:	Explain the motives of the United States acquisition of the territories. **Clarifications:** Examples may include, but are not limited to, Alaska, Hawaii, Puerto Rico, Philippines, Guam, Samoa, Marshall Islands, Midway Island, Virgin Islands. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.4:	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction. **Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.5:	Examine causes, course, and consequences of United States involvement in World War I. **Clarifications:** Examples may include, but are not limited to, nationalism, imperialism, militarism, entangling alliances vs. neutrality, Zimmerman Note, the *Lusitania,* the Selective Service Act, the homefront, the American Expeditionary Force, Wilson's Fourteen Points, the Treaty of Versailles (and opposition to it), isolationism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.4.6:	Examine how the United States government prepared the nation for war with war measures (Selective Service Act, War Industries Board, war bonds, Espionage Act, Sedition Act, Committee of Public Information). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.7:	Examine the impact of airplanes, battleships, new weaponry and chemical warfare in creating new war strategies (trench warfare, convoys). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.10:	Examine the provisions of the Treaty of Versailles and the failure of the United States to support the League of Nations. **Clarifications:** Examples may include, but are not limited to, self-determination, boundaries, demilitarized zone, sanctions reparations, and the League of Nations (including Article X of the Covenant). This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.1:	Discuss the economic outcomes of demobilization. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.3:	Examine the impact of United States foreign economic policy during the 1920s. **Clarifications:** Examples may include, but are not limited to, the Depression of 1920-21, "The Business of America is Business," assembly line, installment buying, consumerism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.4:	Evaluate how the economic boom during the Roaring Twenties changed consumers, businesses, manufacturing, and marketing practices. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.5:	Describe efforts by the United States and other world powers to avoid future wars. **Clarifications:** Examples may include, but are not limited to, League of Nations, Washington Naval Conference, London Conference, Kellogg-Briand Pact, the Nobel Prize. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications page 34. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.11:	Examine causes, course, and consequences of the Great Depression and the New Deal. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.12:	Examine key events and people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Rosewood, land boom, speculation, impact of climate and natural disasters on the end of the land boom, invention of modern air conditioning in 1929, Alfred DuPont, Majorie Kinnan Rawlings, Zora Neale Hurston, James Weldon Johnson. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.1.1:	Evaluate, take, and defend positions on the founding ideals and principles in American Constitutional government.
SS.912.C.1.2:	Explain how the Declaration of Independence reflected the political principles of popular sovereignty, social contract, natural rights, and individual rights.
SS.912.C.1.3:	Evaluate the ideals and principles of the founding documents (Declaration of Independence, Articles of Confederation, Federalist Papers) that shaped American Democracy.
SS.912.C.1.4:	Analyze and categorize the diverse viewpoints presented by the Federalists and the Anti-Federalists concerning ratification of the Constitution and inclusion of a bill of rights.
SS.912.C.1.5:	Evaluate how the Constitution and its amendments reflect the political principles of rule of law, checks and balances, separation of powers, republicanism, democracy, and federalism.
SS.912.C.3.2:	Define federalism, and identify examples of the powers granted and denied to states and the national government in the American federal system of government.
SS.912.C.3.3:	Analyze the structures, functions, and processes of the legislative branch as described in Article I of the Constitution.
SS.912.C.3.4:	Analyze the structures, functions, and processes of the executive branch as described in Article II of the Constitution.
SS.912.C.3.5:	Identify the impact of independent regulatory agencies in the federal bureaucracy. **Clarifications:** Examples are Federal Reserve, Food and Drug Administration, Federal Communications Commission.
SS.912.C.3.6:	Analyze the structures, functions, and processes of the judicial branch as described in Article III of the Constitution.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps.

SS.912.G.1.4:	**Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.4.11:	Summarize the causes that led to the Age of Exploration, and identify major voyages and sponsors.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem

MAFS.K12.MP.1.1:	in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

Visions and Their Pursuits: An American Tradition-U.S.History to 1920 - The grade 9-12 Visions and Their Pursuits course consists of the following content area strands: World History, American History, Civics and Government, Geography, and Humanities. The primary content emphasis for this course pertains to the chronological study of the United States during the period of European exploration through World War I and the collective vision of historical time periods. Content will include, but is not limited to, the foundation and early development of the United States as organized by the visions of those who participated in the revolutions leading to the establishment and early success of the United States, the political, social, cultural, intellectual, and technological revolutions of the United States, the structure and function of political divisions, the organization of the federal government as outlined in the U.S. Constitution, the impact of economic, social, and political changes on traditional American values, reactions to changes, and growth of sectionalism, the failure of previous visions, and the emergence of an industrial, urban and pluralistic society that demands new visions to carry the nation forward.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100380

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: VISIONS & PURSUITS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

The History of The Vietnam War (#2100400) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.11:	Examine the controversy surrounding the proliferation of nuclear technology in the United States and the world. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.13:	Analyze significant foreign policy events during the Truman, Eisenhower, Kennedy, Johnson, and Nixon administrations. **Clarifications:** Examples may include, but are not limited to, the Domino Theory, Sputnik, space race, Korean Conflict, Vietnam Conflict, U-2 and Gary Powers, Bay of Pigs invasion, Cuban Missile Crisis, Berlin Wall, Ping Pong Diplomacy, opening of China. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.14:	Analyze causes, course, and consequences of the Vietnam War. **Clarifications:** Examples may include, but are not lmited to, Geneva Accords, Gulf of Tonkin Resolution, the draft, escalating protest at home, Vietnamization, the War Powers Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.15:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Mosquito Fleet, "Double V Campaign", construction of military bases and WWII training centers, 1959 Cuban coup and its impact on Florida, development of the space program and NASA. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.1:	Identify causes for Post-World War II prosperity and its effects on American society. **Clarifications:** Examples may include, but are not limited to, G.I. Bill, Baby Boom, growth of suburbs, Beatnik movement, youth culture, religious revivalism (e.g., Billy Graham and Bishop Fulton J. Sheen), conformity of the 1950s and the protest in the 1960s. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Compare the relative prosperity between different ethnic groups and social classes in the post-World War II period.

SS.912.A.7.2:	**Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.3:	Examine the changing status of women in the United States from post-World War II to present. **Clarifications:** Examples may include, but are not limited to, increased numbers of women in the workforce, Civil Rights Act of 1964, *The Feminine Mystique*, National Organization for Women, *Roe v. Wade,* Equal Rights Amendment, Title IX, Betty Freidan, Gloria Steinem, Phyllis Schlafly, Billie Jean King, feminism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.4:	Evaluate the success of 1960s era presidents' foreign and domestic policies. **Clarifications:** Examples may include, but are not limited to, civil rights legislation, Space Race, Great Society, War on Poverty. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.10:	Analyze the significance of Vietnam and Watergate on the government and people of the United States. **Clarifications:** Examples may include, but are not limited to, mistrust of government, reinforcement of freedom of the press, as well as checks and balances. Examples may include, but are not limited to, mistrust of government and reinforcement of freedom of the press. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.16:	Examine changes in immigration policy and attitudes toward immigration since 1950. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.17:	Examine key events and key people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.2.4:	Evaluate, take, and defend positions on issues that cause the government to balance the interests of individuals with the public good.
SS.912.C.4.1:	Explain how the world's nations are governed differently.
SS.912.C.4.2:	Evaluate the influence of American foreign policy on other nations and the influences of other nations on American policies and society.

SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.C.4.4:	Compare indicators of democratization in multiple countries.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.G.5.3:	Analyze case studies of the effects of human use of technology on the environment of places.
SS.912.G.6.1:	Use appropriate maps and other graphic representations to analyze geographic problems and changes over time.
SS.912.H.1.1:	Relate works in the arts (architecture, dance, music, theatre, and visual arts) of varying styles and genre according to the periods in which they were created. **Clarifications:** Examples are Bronze Age, Ming Dynasty, Classical, Renaissance, Modern, and Contemporary.
SS.912.H.1.3:	Relate works in the arts to various cultures. **Clarifications:** Examples are African, Asian, Oceanic, European, the Americas, Middle Eastern, Egyptian, Greek, Roman.
SS.912.H.1.5:	Examine artistic response to social issues and new ideas in various cultures. **Clarifications:** Examples are Victor Hugo's Les Miserables, Langston Hughes' poetry, Pete Seeger's Bring 'Em Home.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.6.3:	Compare the philosophies of capitalism, socialism, and communism as described by Adam Smith, Robert Owen, and Karl Marx.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
	Write arguments focused on *discipline-specific content.*

LAFS.910.WHST.1.1:	a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete

	objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

The History of Vietnam - The grade 9-12 The History of Vietnam course consists of the following content area strands: United States History, World History, Civics and Government, Geography, and Humanities. The primary content emphasis for this course pertains to the study of the chronological development of the Vietnam War by examining the political, economic, social, religious, military and cultural events that affected the war. Students will be exposed to the historical, geographic, political, economic, and sociological events which influenced the progression of the war including, but not limited to, an analysis of the United States military effort and makeup in the war, an evaluation of the role of the United States homefront, interpretations of the effects of the media, film and literature during and after the war, a judgment of crucial decisions made during the Vietnam War and an analysis of the resulting impact of the conflict.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices
Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should

specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100400

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: HIST OF VIETNAM WAR

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Holocaust History Honors (#2100405) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.6.3:	Analyze the impact of the Holocaust during World War II on Jews as well as other groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.7:	Describe the attempts to promote international justice through the Nuremberg Trials. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.1.3:	Evaluate the ideals and principles of the founding documents (Declaration of Independence, Articles of Confederation, Federalist Papers) that shaped American Democracy.
SS.912.C.4.1:	Explain how the world's nations are governed differently.
SS.912.C.4.2:	Evaluate the influence of American foreign policy on other nations and the influences of other nations on American policies and society.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.P.10.3:	Discuss the relationship between culture and conceptions of self and identity.
SS.912.P.10.4:	Discuss psychological research examining race and ethnicity.
SS.912.P.10.6:	Discuss how privilege and social power structures relate to stereotypes, prejudice, and discrimination.
SS.912.P.10.14:	Examine societal treatment of people with disabilities and the effect of treatment by others on individual identity/status.
SS.912.S.1.6:	Distinguish fact from opinion in data sources to analyze various points of view about a social issue.
SS.912.S.2.10:	Identify both rights and responsibilities the individual has to the group.
SS.912.S.7.5:	Examine how individual and group responses are often associated with social problems. **Clarifications:** Examples may include, but are not limited to, "But everyone else is doing it" and "If I ignore it, it will go away."
	Define propaganda and discuss the methods of propaganda and discuss the methods of propaganda used to influence social behavior.

SS.912.S.8.7:	**Clarifications:** Examples may include, but are not limited to, news media and advertisements.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.3.2:	Compare the major beliefs and principles of Judaism, Christianity, and Islam.
SS.912.W.6.4:	Describe the 19th and early 20th century social and political reforms and reform movements and their effects in Africa, Asia, Europe, the United States, the Caribbean, and Latin America. **Clarifications:** Examples are Meiji Reforms, abolition of slavery in the British Empire, expansion of women's rights, labor laws.
SS.912.W.7.3:	Summarize significant effects of World War I. **Clarifications:** Examples are collapse of the Romanov dynasty, creation of the Weimar Republic, dissolution of the German, Russian, Austro-Hungarian and Ottoman empires, Armenian Genocide, Balfour Declaration, Treaty of Versailles.
SS.912.W.7.4:	Describe the causes and effects of the German economic crisis of the 1920s and the global depression of the 1930s, and analyze how governments responded to the Great Depression.
SS.912.W.7.5:	Describe the rise of authoritarian governments in the Soviet Union, Italy, Germany, and Spain, and analyze the policies and main ideas of Vladimir Lenin, Joseph Stalin, Benito Mussolini, Adolf Hitler, and Francisco Franco.
SS.912.W.7.6:	Analyze the restriction of individual rights and the use of mass terror against populations in the Soviet Union, Nazi Germany, and occupied territories.
SS.912.W.7.7:	Trace the causes and key events related to World War II.
SS.912.W.7.8:	Explain the causes, events, and effects of the Holocaust (1933-1945) including its roots in the long tradition of anti-Semitism, 19th century ideas about race and nation, and Nazi dehumanization of the Jews and other victims.
SS.912.W.7.9:	Identify the wartime strategy and post-war plans of the Allied leaders. **Clarifications:** Examples are Churchill, Roosevelt, Stalin.
SS.912.W.7.11:	Describe the effects of World War II. **Clarifications:** Examples are human toll, financial cost, physical destruction, emergence of the United States and Soviet Union as superpowers, creation of the United Nations.
SS.912.W.8.6:	Explain the 20th century background for the establishment of the modern state of Israel in 1948 and the ongoing military and political conflicts between Israel and the Arab-Muslim world.
SS.912.W.9.3:	Explain cultural, historical, and economic factors and governmental policies that created the opportunities for ethnic cleansing or genocide in Cambodia, the Balkans, Rwanda, and Darfur, and describe various governmental and non-governmental responses to them. **Clarifications:** Examples are prejudice, racism, stereotyping, economic competition.
SS.912.W.9.4:	Describe the causes and effects of twentieth century nationalist conflicts. **Clarifications:** Examples are Cyprus, Kashmir, Tibet, Northern Ireland.
SS.912.W.9.5:	Assess the social and economic impact of pandemics on a global scale, particularly within the developing and under-developed world.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

LAFS.910.SL.1.1:	b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.SL.2.5:	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points.

MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.

General Course Information and Notes

GENERAL NOTES

This grades 9-12 Holocaust course consists of the following content area strands: American History, World History, Geography, Humanities, Civics and Government. The primary content emphasis for this course pertains to the examination of the events of the Holocaust (1933-1945), the systemic, planned annihilation of European Jews and other groups by Nazi Germany. Content will include, but is not limited to, the examination of twentieth century programs and of twentieth century and twenty-first century genocides, investigation of human behavior during this period, and an understanding of the ramifications of prejudice, racism and stereotyping.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematical Benchmark Guidance: Social studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts and graphs.

Instructional Practices: Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, more complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf.

GENERAL INFORMATION

Course Number: 2100405

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >

Abbreviated Title: HOLOCAUST HIST HON

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Attributes:
- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12,30,31

Educator Certifications

Social Science (Grades 5-9)
History (Grades 6-12)
Social Science (Grades 6-12)

Eastern and Western Heritage Honors (#2100460) 2017 - 2022

(current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.

SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.2.1:	Locate the extent of Byzantine territory at the height of the empire.
SS.912.W.2.2:	Describe the impact of Constantine the Great's establishment of "New Rome" (Constantinople) and his recognition of Christianity as a legal religion.
SS.912.W.2.3:	Analyze the extent to which the Byzantine Empire was a continuation of the old Roman Empire and in what ways it was a departure.
SS.912.W.2.4:	Identify key figures associated with the Byzantine Empire. **Clarifications:** Examples are Justinian the Great, Theodora, Belisarius, John of Damascus, Anna Comnena, Cyril and Methodius.
SS.912.W.2.5:	Explain the contributions of the Byzantine Empire. **Clarifications:** Examples are Justinian's Code, the preservation of ancient Greek and Roman learning and culture, artistic and architectural achievements, the empire's impact on the development of Western Europe, Islamic civilization, and Slavic peoples.
SS.912.W.2.6:	Describe the causes and effects of the Iconoclast controversy of the 8th and 9th centuries and the 11th century Christian schism between the churches of Constantinople and Rome.
SS.912.W.2.7:	Analyze causes (Justinian's Plague, ongoing attacks from the "barbarians," the Crusades, and internal political turmoil) of the decline of the Byzantine Empire.
SS.912.W.2.8:	Describe the rise of the Ottoman Turks, the conquest of Constantinople in 1453, and the subsequent growth of the Ottoman empire under the sultanate including Mehmet the Conqueror and Suleyman the Magnificent.
SS.912.W.2.9:	Analyze the impact of the collapse of the Western Roman Empire on Europe.
SS.912.W.2.10:	Describe the orders of medieval social hierarchy, the changing role of the Church, the emergence of feudalism, and the development of private property as a distinguishing feature of Western Civilization.
SS.912.W.2.11:	Describe the rise and achievements of significant rulers in medieval Europe. **Clarifications:** Examples are Charles Martel, Charlemagne, Otto the Great, William the Conqueror.
SS.912.W.2.12:	Recognize the importance of Christian monasteries and convents as centers of education, charitable and missionary activity, economic productivity, and political power.
SS.912.W.2.13:	Explain how Western civilization arose from a synthesis of classical Greco-Roman civilization, Judeo-Christian influence, and the cultures of northern European peoples promoting a cultural unity in Europe.
SS.912.W.2.14:	Describe the causes and effects of the Great Famine of 1315-1316, The Black Death, The Great Schism of 1378, and the Hundred Years War on Western Europe.
SS.912.W.2.15:	Determine the factors that contributed to the growth of a modern economy. **Clarifications:** Examples are growth of banking, technological and agricultural improvements, commerce, towns, guilds, rise of a merchant class.
SS.912.W.2.16:	Trace the growth and development of a national identity in the countries of England, France, and Spain.
SS.912.W.2.17:	Identify key figures, artistic, and intellectual achievements of the medieval period in Western Europe. **Clarifications:** Examples are Anselm of Canterbury, Chaucer, Thomas Aquinas, Roger Bacon, Hildegard of Bingen, Dante, Code of Chivalry, Gothic architecture, illumination, universities, Natural Law Philosophy, Scholasticism.
SS.912.W.2.18:	Describe developments in medieval English legal and constitutional history and their importance to the rise of modern democratic institutions and procedures. **Clarifications:** Examples are Magna Carta, parliament, habeas corpus.
SS.912.W.2.19:	Describe the impact of Japan's physiography on its economic and political development.
SS.912.W.2.20:	Summarize the major cultural, economic, political, and religious developments in medieval Japan. **Clarifications:** Examples are Pillow Book, Tale of Genji, Shinto and Japanese Buddhism, the rise of feudalism, the development of the shogunate, samurai, and social hierarchy.
SS.912.W.2.21:	Compare Japanese feudalism with Western European feudalism during the Middle Ages.
SS.912.W.2.22:	Describe Japan's cultural and economic relationship to China and Korea.
SS.912.W.3.1:	Discuss significant people and beliefs associated with Islam. **Clarifications:** Examples are the prophet Muhammad, the early caliphs, the Pillars of Islam, Islamic law, the relationship between government and religion in Islam.
SS.912.W.3.2:	Compare the major beliefs and principles of Judaism, Christianity, and Islam.
SS.912.W.3.3:	Determine the causes, effects, and extent of Islamic military expansion through Central Asia, North Africa, and the Iberian Peninsula.
SS.912.W.3.4:	Describe the expansion of Islam into India and the relationship between Muslims and Hindus.
SS.912.W.3.5:	Describe the achievements, contributions, and key figures associated with the Islamic Golden Age. **Clarifications:** Examples are Al-Ma'mun, Avicenna, Averroes, Algebra, Al-Razi, Alhambra, The Thousand and One Nights.
SS.912.W.3.7:	Analyze the causes, key events, and effects of the European response to Islamic expansion beginning in the 7th century. **Clarifications:** Examples are Crusades, Reconquista.
SS.912.W.3.8:	Identify important figures associated with the Crusades. **Clarifications:** Examples are Alexius Comnenus, Pope Urban, Bernard of Clairvaux, Godfrey of Bouillon, Saladin, Richard the Lionheart, Baybars, Louis IX.

SS.912.W.3.9:	Trace the growth of major sub-Saharan African kingdoms and empires. **Clarifications:** Examples are Ghana, Mali, Songhai.
SS.912.W.3.10:	Identify key significant economic, political, and social characteristics of Ghana. **Clarifications:** Examples are salt and gold trade, taxation system, gold monopoly, matrilineal inheritance, griots, ancestral worship, rise of Islam, slavery.
SS.912.W.3.11:	Identify key figures and significant economic, political, and social characteristics associated with Mali. **Clarifications:** Examples are Sundiata, Epic of Sundiata, Mansa Musa, Ibn Battuta, gold mining and salt trade, slavery.
SS.912.W.3.12:	Identify key figures and significant economic, political, and social characteristics associated with Songhai. **Clarifications:** Examples are Sunni Ali, Askia Mohammad the Great, gold, salt trade, cowries as a medium of exchange, Sankore University, slavery, professional army, provincial political structure.
SS.912.W.3.13:	Compare economic, political, and social developments in East, West, and South Africa.
SS.912.W.3.14:	Examine the internal and external factors that led to the fall of the empires of Ghana, Mali, and Songhai. **Clarifications:** Examples are disruption of trade, internal political struggles, Islamic invasions.
SS.912.W.3.15:	Analyze the legacies of the Olmec, Zapotec, and Chavin on later Meso and South American civilizations.
SS.912.W.3.16:	Locate major civilizations of Mesoamerica and Andean South America. **Clarifications:** Examples are Maya, Aztec, Inca.
SS.912.W.3.17:	Describe the roles of people in the Maya, Inca, and Aztec societies. **Clarifications:** Examples are class structure, family life, warfare, religious beliefs and practices, slavery.
SS.912.W.3.18:	Compare the key economic, cultural, and political characteristics of the major civilizations of Meso and South America. **Clarifications:** Examples are agriculture, architecture, astronomy, literature, mathematics, trade networks, government.
SS.912.W.3.19:	Determine the impact of significant Meso and South American rulers such as Pacal the Great, Moctezuma I, and Huayna Capac.
SS.912.W.4.1:	Identify the economic and political causes for the rise of the Italian city-states (Florence, Milan, Naples, Rome, Venice).
SS.912.W.4.2:	Recognize major influences on the architectural, artistic, and literary developments of Renaissance Italy (Classical, Byzantine, Islamic, Western European).
SS.912.W.4.3:	Identify the major artistic, literary, and technological contributions of individuals during the Renaissance. **Clarifications:** Examples are Petrarch, Brunelleschi, Giotto, the Medici Family, Michelangelo, Leonardo da Vinci, Erasmus, Thomas More, Machiavelli, Shakespeare, Gutenberg, El Greco, Artemisia Gentileschi, Van Eyck.
SS.912.W.4.4:	Identify characteristics of Renaissance humanism in works of art. **Clarifications:** Examples are influence of classics, School of Athens.
SS.912.W.4.5:	Describe how ideas from the Middle Ages and Renaissance led to the Scientific Revolution.
SS.912.W.4.6:	Describe how scientific theories and methods of the Scientific Revolution challenged those of the early classical and medieval periods.
SS.912.W.4.7:	Identify criticisms of the Roman Catholic Church by individuals such as Wycliffe, Hus and Erasmus and their impact on later reformers.
SS.912.W.4.8:	Summarize religious reforms associated with Luther, Calvin, Zwingli, Henry VIII, and John of Leyden and the effects of the Reformation on Europe. **Clarifications:** Examples are Catholic and Counter Reformation, political and religious fragmentation, military conflict, expansion of capitalism.
SS.912.W.4.9:	Analyze the Roman Catholic Church's response to the Protestant Reformation in the forms of the Counter and Catholic Reformation. **Clarifications:** Examples are Council of Trent, Thomas More, Ignatius of Loyola and the Jesuits, Teresa of Avila, Charles V.
SS.912.W.4.10:	Identify the major contributions of individuals associated with the Scientific Revolution. **Clarifications:** Examples are Francis Bacon, Nicholas Copernicus, Rene Descartes, Galileo Galilei, Johannes Kepler, Isaac Newton, Blaise Pascal, Vesalius.
SS.912.W.4.11:	Summarize the causes that led to the Age of Exploration, and identify major voyages and sponsors.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.

LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★

MAFS.912.S-ID.1.2:	**Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

Eastern and Western Heritage - The grade 9-12 Eastern and Western Heritage course consists of the following content area strands: World History, United States History, Geography, and Humanities. The primary content emphasis for this course pertains to the study of the world's earliest civilizations to the ancient and classical civilizations of Africa, Asia, and Europe. Content will include, but is not limited to, the birth of civilizations throughout the world, including the origins of societies from Mesopotamia, Africa, China, India, and Mesoamerica from the perspective of cultural geography, growth, dissemination, and decline of four classic civilizations of India, China, Greece, and Rome, the role of isolation and interaction in the development of the Byzantine Empire, African and Mesoamerican civilizations, India, China, Japan, and Europe, and the emergence of social, political, economic, and religious institutions and ideas.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained

through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices - Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities(claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100460

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >

Abbreviated Title: EAST/WEST HERI HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Visions & Their Pursuits:An AmerTrad-U.S. Hist to 1920 Honors (#2100470) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.3:	Describe the issues that divided Republicans during the early Reconstruction era. **Clarifications:** Examples may include, but are not limited to, the impeachment of Andrew Johnson, southern whites, blacks, black legislators and white extremist organizations such as the KKK, Knights of the White Camellia, The White League, Red Shirts, and Pale Faces. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.2:	Examine the social, political, and economic causes, course, and consequences of the second Industrial Revolution that began in the late 19th century. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.4:	Determine how the development of steel, oil, transportation, communication, and business practices affected the United States economy. **Clarifications:** Examples may include, but are not limited to, railroads, the telegraph, pools, holding companies, trusts, corporations, contributed to westward expansion, expansion of trade and development of new industries, vertical and horizontal integration. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.6:	Analyze changes that occurred as the United States shifted from agrarian to an industrial society. **Clarifications:** Examples may include, but are not limited to, Social Darwinism, laissez-faire, government regulations of food and drugs, migration to cities, urbanization, changes to the family structure, Ellis Island, angel Island, push-pull factors. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.7:	Compare the experience of European immigrants in the east to that of Asian immigrants in the west (the Chinese Exclusion Act, Gentlemen's Agreement with Japan). **Clarifications:** Examples may include, but are not limited to nativism, integration of immigrants into society when comparing "Old" [before 1890] and "New" immigrants [after 1890], Immigration Act of 1924. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.8:	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.9:	Examine causes, course, and consequences of the labor movement in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but are not limited to, unions, Knights of Labor, american Federation of Labor, socialist Party, labor laws. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.10:	Review different economic and philosophic ideologies. **Clarifications:** Economic examples may include, but are not limited to, market economy, mixed economy, planned economy and philosophic examples are capitalism, socialism, communism, anarchy. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.11:	Analyze the impact of political machines in United States cities in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but aren ot limited to, Boss Tweed, Tammany Hall, George Washington Plunkitt, Washington Gladden, Thomas Nast. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.12:	Compare how different nongovernmental organizations and progressives worked to shape public policy, restore economic opportunities, and correct injustices in American life. **Clarifications:** Examples may include, but are not limited to, NAACP, YMCA, Women's Christian Temperance Union, National Women's Suffrage Association, National Women's Party, Robert LaFollette, Florence Kelley, Ida M. Tarbell, Eugene Debs, Carrie Chapman Catt, Alice Paul, Theodore Roosevelt, William Taft, Woodrow Wilson, Upton Sinclair, Booker T. Washington, W.E.B. DuBois, Gifford Pinchot, William Jennings Bryan. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.13:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the railroad industry, bridge construction in the Florida Keys, the cattle industry, the cigar industry, the influence of Cuban, Greek and Italian immigrants, Henry B. Plant, William Chipley, Henry Flagler, George Proctor, Thomas DeSaille Tucker, Hamilton Disston. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.1:	Analyze the major factors that drove United States imperialism. **Clarifications:** Examples may include, but are not limited to, the Monroe Doctrine, Manifest Destiny, *The Influence of Sea Power Upon History, Turner's thesis,the Roosevelt Corollary, natural resources, markets for resources, elimination of spheres of influence in China.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.2:	Explain the motives of the United States acquisition of the territories. **Clarifications:** Examples may include, but are not limited to, Alaska, Hawaii, Puerto Rico, Philippines, Guam, Samoa, Marshall Islands, Midway Island, Virgin Islands. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.4:	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction. **Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.5:	Examine causes, course, and consequences of United States involvement in World War I. **Clarifications:** Examples may include, but are not limited to, nationalism, imperialism, militarism, entangling alliances vs. neutrality, Zimmerman Note, the *Lusitania,* the Selective Service Act, the homefront, the American Expeditionary Force, Wilson's Fourteen Points, the Treaty of Versailles (and opposition to it), isolationism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.4.6:	Examine how the United States government prepared the nation for war with war measures (Selective Service Act, War Industries Board, war bonds, Espionage Act, Sedition Act, Committee of Public Information). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.7:	Examine the impact of airplanes, battleships, new weaponry and chemical warfare in creating new war strategies (trench warfare, convoys). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.10:	Examine the provisions of the Treaty of Versailles and the failure of the United States to support the League of Nations. **Clarifications:** Examples may include, but are not limited to, self-determination, boundaries, demilitarized zone, sanctions reparations, and the League of Nations (including Article X of the Covenant). This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.1:	Discuss the economic outcomes of demobilization. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.3:	Examine the impact of United States foreign economic policy during the 1920s. **Clarifications:** Examples may include, but are not limited to, the Depression of 1920-21, "The Business of America is Business," assembly line, installment buying, consumerism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.4:	Evaluate how the economic boom during the Roaring Twenties changed consumers, businesses, manufacturing, and marketing practices. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.5:	Describe efforts by the United States and other world powers to avoid future wars. **Clarifications:** Examples may include, but are not limited to, League of Nations, Washington Naval Conference, London Conference, Kellogg-Briand Pact, the Nobel Prize. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications page 34. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.11:	Examine causes, course, and consequences of the Great Depression and the New Deal. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.12:	Examine key events and people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Rosewood, land boom, speculation, impact of climate and natural disasters on the end of the land boom, invention of modern air conditioning in 1929, Alfred DuPont, Majorie Kinnan Rawlings, Zora Neale Hurston, James Weldon Johnson. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.1.1:	Evaluate, take, and defend positions on the founding ideals and principles in American Constitutional government.
SS.912.C.1.2:	Explain how the Declaration of Independence reflected the political principles of popular sovereignty, social contract, natural rights, and individual rights.
SS.912.C.1.3:	Evaluate the ideals and principles of the founding documents (Declaration of Independence, Articles of Confederation, Federalist Papers) that shaped American Democracy.
SS.912.C.1.4:	Analyze and categorize the diverse viewpoints presented by the Federalists and the Anti-Federalists concerning ratification of the Constitution and inclusion of a bill of rights.
SS.912.C.1.5:	Evaluate how the Constitution and its amendments reflect the political principles of rule of law, checks and balances, separation of powers, republicanism, democracy, and federalism.
SS.912.C.3.2:	Define federalism, and identify examples of the powers granted and denied to states and the national government in the American federal system of government.
SS.912.C.3.3:	Analyze the structures, functions, and processes of the legislative branch as described in Article I of the Constitution.
SS.912.C.3.4:	Analyze the structures, functions, and processes of the executive branch as described in Article II of the Constitution.
SS.912.C.3.5:	Identify the impact of independent regulatory agencies in the federal bureaucracy. **Clarifications:** Examples are Federal Reserve, Food and Drug Administration, Federal Communications Commission.
SS.912.C.3.6:	Analyze the structures, functions, and processes of the judicial branch as described in Article III of the Constitution.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps.

SS.912.G.1.4:	**Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.4.11:	Summarize the causes that led to the Age of Exploration, and identify major voyages and sponsors.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
	Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem

MAFS.K12.MP.1.1:	in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

Visions and Their Pursuits: An American Tradition-U.S.History to 1920 - The grade 9-12 Visions and Their Pursuits course consists of the following content area strands: World History, American History, Civics and Government, Geography, and Humanities. The primary content emphasis for this course pertains to the chronological study of the United States during the period of European exploration through World War I and the collective vision of historical time periods. Content will include, but is not limited to, the foundation and early development of the United States as organized by the visions of those who participated in the revolutions leading to the establishment and early success of the United States, the political, social, cultural, intellectual, and technological revolutions of the United States, the structure and function of political divisions, the organization of the federal government as outlined in the U.S. Constitution, the impact of economic, social, and political changes on traditional American values, reactions to changes, and growth of sectionalism, the failure of previous visions, and the emergence of an industrial, urban and pluralistic society that demands new visions to carry the nation forward.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100470

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: VISIONS/PURSUITS HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:
- Honors

Course Type: Elective Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Visions and Countervisions: Europe, U.S. and the World from 1848 Honors (#2100480) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.1.1:	Describe the importance of historiography, which includes how historical knowledge is obtained and transmitted, when interpreting events in history.
SS.912.A.1.2:	Utilize a variety of primary and secondary sources to identify author, historical significance, audience, and authenticity to understand a historical period. **Clarifications:** Examples of primary and secondary sources may be found on various websites such as the site for The Kinsey Collection.
SS.912.A.1.3:	Utilize timelines to identify the time sequence of historical data.
SS.912.A.1.4:	Analyze how images, symbols, objects, cartoons, graphs, charts, maps, and artwork may be used to interpret the significance of time periods and events from the past.
SS.912.A.1.5:	Evaluate the validity, reliability, bias, and authenticity of current events and Internet resources. **Clarifications:** Students should be encouraged to utilize FINDS (Focus, Investigate, Note, Develop, Score), Florida's research process model accessible at: fldoe.org/bii/Library_Media/pdf/12TotalFINDS.pdf
SS.912.A.1.6:	Use case studies to explore social, political, legal, and economic relationships in history.
SS.912.A.1.7:	Describe various socio-cultural aspects of American life including arts, artifacts, literature, education, and publications.
SS.912.A.2.1:	Review causes and consequences of the Civil War. **Clarifications:** Examples may include, but are not limited to, slavery, states' rights, territorial claims, abolitionist movement, regional differences, Reconstruction, 13th, 14th, and 15th amendments. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is assessed view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.2:	Assess the influence of significant people or groups on Reconstruction. **Clarifications:** Examples may include, but are not limited to, Alexander H. Stephens, Andrew Johnson, carpetbaggers, Charles Sumner, Elizabeth Cady Stanton, Frederick Douglass, Hiram Revels, Hiram Rhodes Revels, Jefferson Davis, Ku Klux Klan, Oliver O. Howard, Radical Republicans, Rutherford B. Hayes, scalawags, Thaddeus Stevens, Ulysses S. Grant, and William T. Sherman. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.3:	Describe the issues that divided Republicans during the early Reconstruction era. **Clarifications:** Examples may include, but are not limited to, the impeachment of Andrew Johnson, southern whites, blacks, black legislators and white extremist organizations such as the KKK, Knights of the White Camellia, The White League, Red Shirts, and Pale Faces. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.4:	Distinguish the freedoms guaranteed to African Americans and other groups with the 13th, 14th, and 15th Amendments to the Constitution. **Clarifications:** Examples may include, but are not limited to, abolition of slavery, citizenship, suffrage, equal protection. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.5:	Assess how Jim Crow Laws influenced life for African Americans and other racial/ethnic minority groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.6:	Compare the effects of the Black Codes and the Nadir on freed people, and analyze the sharecropping system and debt peonage as practiced in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.2.7:	Review the Native American experience. **Clarifications:** Examples may include, but are not limited to, westward expansion, reservation system, the Dawes Act, Wounded Knee Massacre, Sand Creek Massacre, Battle of Little Big Horn, Indian Schools, government involvement in the killing of the buffalo. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 19-21. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.1:	Analyze the economic challenges to American farmers and farmers' responses to these challenges in the mid to late 1800s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, creation of agricultural colleges, Morrill Land Grant Act, gold standard and Bimetallism, the creation of the Populist Party.
SS.912.A.3.2:	Examine the social, political, and economic causes, course, and consequences of the second Industrial Revolution that began in the late 19th century. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.3:	Compare the first and second Industrial Revolutions in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage. Examples may include, but are not limited to, trade, development of new industries.
SS.912.A.3.4:	Determine how the development of steel, oil, transportation, communication, and business practices affected the United States economy. **Clarifications:** Examples may include, but are not limited to, railroads, the telegraph, pools, holding companies, trusts, corporations, contributed to westward expansion, expansion of trade and development of new industries, vertical and horizontal integration. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.5:	Identify significant inventors of the Industrial Revolution including African Americans and women. **Clarifications:** Examples may include, but are not limited to, Lewis Howard Latimer, Jan E. Matzeliger, Sarah E. Goode, Granville T. Woods, Alexander Graham Bell, Thomas Edison, George Pullman, Henry Ford, Orville and Wilbur Wright, Elijah McCoy, Garrett Morgan, Madame C.J. Walker, George Westinghouse. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.6:	Analyze changes that occurred as the United States shifted from agrarian to an industrial society. **Clarifications:** Examples may include, but are not limited to, Social Darwinism, laissez-faire, government regulations of food and drugs, migration to cities, urbanization, changes to the family structure, Ellis Island, angel Island, push-pull factors. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.7:	Compare the experience of European immigrants in the east to that of Asian immigrants in the west (the Chinese Exclusion Act, Gentlemen's Agreement with Japan). **Clarifications:** Examples may include, but are not limited to nativism, integration of immigrants into society when comparing "Old" [before 1890] and "New" immigrants [after 1890], Immigration Act of 1924. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 23-26. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Examine the importance of social change and reform in the late 19th and early 20th centuries (class system, migration from farms to cities, Social Gospel movement, role of settlement houses and churches in providing services to the poor).

SS.912.A.3.8:	**Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.9:	Examine causes, course, and consequences of the labor movement in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but are not limited to, unions, Knights of Labor, american Federation of Labor, socialist Party, labor laws. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.10:	Review different economic and philosophic ideologies. **Clarifications:** Economic examples may include, but are not limited to, market economy, mixed economy, planned economy and philosophic examples are capitalism, socialism, communism, anarchy. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.11:	Analyze the impact of political machines in United States cities in the late 19th and early 20th centuries. **Clarifications:** Examples may include, but aren ot limited to, Boss Tweed, Tammany Hall, George Washington Plunkitt, Washington Gladden, Thomas Nast. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.12:	Compare how different nongovernmental organizations and progressives worked to shape public policy, restore economic opportunities, and correct injustices in American life. **Clarifications:** Examples may include, but are not limited to, NAACP, YMCA, Women's Christian Temperance Union, National Women's Suffrage Association, National Women's Party, Robert LaFollette, Florence Kelley, Ida M. Tarbell, Eugene Debs, Carrie Chapman Catt, Alice Paul, Theodore Roosevelt, William Taft, Woodrow Wilson, Upton Sinclair, Booker T. Washington, W.E.B. DuBois, Gifford Pinchot, William Jennings Bryan. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.3.13:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the railroad industry, bridge construction in the Florida Keys, the cattle industry, the cigar industry, the influence of Cuban, Greek and Italian immigrants, Henry B. Plant, William Chipley, Henry Flagler, George Proctor, Thomas DeSaille Tucker, Hamilton Disston. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 22. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.1:	Analyze the major factors that drove United States imperialism. **Clarifications:** Examples may include, but are not limited to, the Monroe Doctrine, Manifest Destiny, *The Influence of Sea Power Upon History, Turner's thesis,the Roosevelt Corollary, natural resources, markets for resources, elimination of spheres of influence in China.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.2:	Explain the motives of the United States acquisition of the territories. **Clarifications:** Examples may include, but are not limited to, Alaska, Hawaii, Puerto Rico, Philippines, Guam, Samoa, Marshall Islands, Midway Island, Virgin Islands. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.3:	Examine causes, course, and consequences of the Spanish American War. **Clarifications:** Examples may include, but are not limited to, Cuba as a protectorate, Yellow Journalism, sinking of the *Maine, the Philippines, Commodore Dewey, the Rough Riders, acqusition of territories, the Treaty of Paris.* This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Analyze the economic, military, and security motivations of the United States to complete the Panama Canal as well as major obstacles involved in its construction.

SS.912.A.4.4:	**Clarifications:** Examples may include, but are not limited to, disease, environmental impact, challenges faced by various ethnic groups such as Africans and indigenous populations, shipping routes, increased trade, defense and independence for Panama. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 27-28. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.5:	Examine causes, course, and consequences of United States involvement in World War I. **Clarifications:** Examples may include, but are not limited to, nationalism, imperialism, militarism, entangling alliances vs. neutrality, Zimmerman Note, the *Lusitania,* the Selective Service Act, the homefront, the American Expeditionary Force, Wilson's Fourteen Points, the Treaty of Versailles (and opposition to it), isolationism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.6:	Examine how the United States government prepared the nation for war with war measures (Selective Service Act, War Industries Board, war bonds, Espionage Act, Sedition Act, Committee of Public Information). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.7:	Examine the impact of airplanes, battleships, new weaponry and chemical warfare in creating new war strategies (trench warfare, convoys). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.8:	Compare the experiences Americans (African Americans, Hispanics, Asians, women, conscientious objectors) had while serving in Europe. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.9:	Compare how the war impacted German Americans, Asian Americans, African Americans, Hispanic Americans, Jewish Americans, Native Americans, women and dissenters in the United States. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.10:	Examine the provisions of the Treaty of Versailles and the failure of the United States to support the League of Nations. **Clarifications:** Examples may include, but are not limited to, self-determination, boundaries, demilitarized zone, sanctions reparations, and the League of Nations (including Article X of the Covenant). This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.4.11:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, the Spanish-American War, Ybor City, Jose Marti. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 29-31. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.1:	Discuss the economic outcomes of demobilization. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.2:	Explain the causes of the public reaction (Sacco and Vanzetti, labor, racial unrest) associated with the Red Scare. **Clarifications:** Examples may also include, but are not limited to, Palmer Raids, FBI, J. Edgar Hoover. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
	Examine the impact of United States foreign economic policy during the 1920s. **Clarifications:** Examples may include, but are not limited to, the Depression of 1920-21, "The Business of America is Business," assembly line, installment buying,

SS.912.A.5.3:	consumerism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 32-33. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.4:	Evaluate how the economic boom during the Roaring Twenties changed consumers, businesses, manufacturing, and marketing practices. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.5:	Describe efforts by the United States and other world powers to avoid future wars. **Clarifications:** Examples may include, but are not limited to, League of Nations, Washington Naval Conference, London Conference, Kellogg-Briand Pact, the Nobel Prize. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications page 34. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.6:	Analyze the influence that Hollywood, the Harlem Renaissance, the Fundamentalist movement, and prohibition had in changing American society in the 1920s. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.7:	Examine the freedom movements that advocated civil rights for African Americans, Latinos, Asians, and women. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.8:	Compare the views of Booker T. Washington, W.E.B. DuBois, and Marcus Garvey relating to the African American experience. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.9:	Explain why support for the Ku Klux Klan varied in the 1920s with respect to issues such as anti-immigration, anti-African American, anti-Catholic, anti-Jewish, anti-women, and anti-union ideas. **Clarifications:** Examples may include, but are not limited to, 100 Percent Americanism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.10:	Analyze support for and resistance to civil rights for women, African Americans, Native Americans, and other minorities. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.11:	Examine causes, course, and consequences of the Great Depression and the New Deal. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 37-39. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.5.12:	Examine key events and people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Rosewood, land boom, speculation, impact of climate and natural disasters on the end of the land boom, invention of modern air conditioning in 1929, Alfred DuPont, Majorie Kinnan Rawlings, Zora Neale Hurston, James Weldon Johnson. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 35-36. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.1:	Examine causes, course, and consequences of World War II on the United States and the world. **Clarifications:** Examples may include, but are not limited to, rise of dictators, attack on Pearl Harbor, Nazi party, American neutrality, D-Day, Battle of the Bulge, War in the Pacific, internment camps, Holocaust, Yalta. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found

	on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.2:	Describe the United States response in the early years of World War II (Neutrality Acts, Cash and Carry, Lend Lease Act). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.3:	Analyze the impact of the Holocaust during World War II on Jews as well as other groups. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.4:	Examine efforts to expand or contract rights for various populations during World War II. **Clarifications:** Examples may include, but are not limited to, women, African Americans, German Americans, Japanese Americans and their internment, Native Americans, Hispanic Americans, Italian Americans. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.5:	Explain the impact of World War II on domestic government policy. **Clarifications:** Examples may include, but are not limited to, rationing, national security, civil rights, increased job opportunities for African Americans, women, Jews, and other refugees. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.6:	Analyze the use of atomic weapons during World War II and the aftermath of the bombings. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.7:	Describe the attempts to promote international justice through the Nuremberg Trials. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.8:	Analyze the effects of the Red Scare on domestic United States policy. **Clarifications:** Examples may include, but are not limited to, loyalty review program, House Un-American Activities Committee, McCarthyism (Sen. Joe McCarthy), McCarran Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.9:	Describe the rationale for the formation of the United Nations, including the contribution of Mary McLeod Bethune. **Clarifications:** Examples may include, but are not limited to, the Declaration of Human Rights. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.10:	Examine causes, course, and consequences of the early years of the Cold War (Truman Doctrine, Marshall Plan, NATO, Warsaw Pact). **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 43-44. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.11:	Examine the controversy surrounding the proliferation of nuclear technology in the United States and the world. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.12:	Examine causes, course, and consequences of the Korean War. **Clarifications:** Examples may include, but aren ot limited to, Communist China, 38th parallel, cease fire, firing of Gen. Douglas McArthur. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is

	evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.13:	Analyze significant foreign policy events during the Truman, Eisenhower, Kennedy, Johnson, and Nixon administrations. **Clarifications:** Examples may include, but are not limited to, the Domino Theory, Sputnik, space race, Korean Conflict, Vietnam Conflict, U-2 and Gary Powers, Bay of Pigs invasion, Cuban Missile Crisis, Berlin Wall, Ping Pong Diplomacy, opening of China. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.14:	Analyze causes, course, and consequences of the Vietnam War. **Clarifications:** Examples may include, but are not lmited to, Geneva Accords, Gulf of Tonkin Resolution, the draft, escalating protest at home, Vietnamization, the War Powers Act. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 45-46. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.6.15:	Examine key events and peoples in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, Mosquito Fleet, "Double V Campaign", construction of military bases and WWII training centers, 1959 Cuban coup and its impact on Florida, development of the space program and NASA. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 40-42. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.1:	Identify causes for Post-World War II prosperity and its effects on American society. **Clarifications:** Examples may include, but are not limited to, G.I. Bill, Baby Boom, growth of suburbs, Beatnik movement, youth culture, religious revivalism (e.g., Billy Graham and Bishop Fulton J. Sheen), conformity of the 1950s and the protest in the 1960s. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.2:	Compare the relative prosperity between different ethnic groups and social classes in the post-World War II period. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.3:	Examine the changing status of women in the United States from post-World War II to present. **Clarifications:** Examples may include, but are not limited to, increased numbers of women in the workforce, Civil Rights Act of 1964, *The Feminine Mystique*, National Organization for Women, *Roe v. Wade,* Equal Rights Amendment, Title IX, Betty Freidan, Gloria Steinem, Phyllis Schlafly, Billie Jean King, feminism. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-48. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.4:	Evaluate the success of 1960s era presidents' foreign and domestic policies. **Clarifications:** Examples may include, but are not limited to, civil rights legislation, Space Race, Great Society, War on Poverty. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.5:	Compare nonviolent and violent approaches utilized by groups (African Americans, women, Native Americans, Hispanics) to achieve civil rights. **Clarifications:** Examples may include, but are not limited to, sit-ins, Freedom Rides, boycotts, riots, protest marches. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.6:	Assess key figures and organizations in shaping the Civil Rights Movement and Black Power Movement. **Clarifications:** Examples may include, but are not limited to, the NAACP, National Urban League, SNCC, CORE, James Farmer, Charles Houston, Thurgood Marshall, Rosa Parks, Constance Baker Motley, the Little Rock Nine, Roy Wilkins, Whitney M. Young, A. Philip Randolph, Dr. Martin Luther King, Jr., Robert F. Williams, Fannie Lou Hamer, Malcolm X [El-Hajj Malik El-Shabazz], Stokely Carmichael [Kwame Ture], H. Rap Brown [Jamil Abdullah Al-Amin], the Black Panther Party [e.g., Huey P. Newton, Bobby Seale].

	This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.7:	Assess the building of coalitions between African Americans, whites, and other groups in achieving integration and equal rights. **Clarifications:** Examples may include, but are not limited to, Freedom Summer, Freedom Rides, Montgomery Bus Boycott, Tallahassee Bus Boycott of 1956, March on Washington. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 51-52. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.8:	Analyze significant Supreme Court decisions relating to integration, busing, affirmative action, the rights of the accused, and reproductive rights. **Clarifications:** Examples may include, but are not limited to, Plessy v. Ferguson [1896], Brown v. Board of Education [1954], Swann v. Charlotte-Mecklenburg Board of Education [1971], Regents of the University of California v. Bakke [1978], Miranda v. Arizona [1966], Gideon v. Wainwright [1963], Mapp v. Ohio [1961], and Roe v. Wade [1973]. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 53-54. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.9:	Examine the similarities of social movements (Native Americans, Hispanics, women, anti-war protesters) of the 1960s and 1970s.
SS.912.A.7.10:	Analyze the significance of Vietnam and Watergate on the government and people of the United States. **Clarifications:** Examples may include, but are not limited to, mistrust of government, reinforcement of freedom of the press, as well as checks and balances. Examples may include, but are not limited to, mistrust of government and reinforcement of freedom of the press. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.13:	Analyze the attempts to extend New Deal legislation through the Great Society and the successes and failures of these programs to promote social and economic stability. **Clarifications:** Examples may include, but are not limited to, Civil Rights Act of 1964, Voting Rights Act of 1965, War on Poverty, Medicare, Medicaid, Headstart. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 49-50 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.15:	Analyze the effects of foreign and domestic terrorism on the American people. **Clarifications:** Examples may include, but are not limited to, Oklahoma City bombing, attack of September 11, 2001, Patriot Act, wars in Afghanistan and Iraq. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.

SS.912.A.7.16:	Examine changes in immigration policy and attitudes toward immigration since 1950. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.17:	Examine key events and key people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.4.11:	Summarize the causes that led to the Age of Exploration, and identify major voyages and sponsors.
LAFS.1112.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
LAFS.1112.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
LAFS.1112.RH.1.3:	Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
LAFS.1112.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).

LAFS.1112.RH.2.5:	Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
LAFS.1112.RH.2.6:	Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
LAFS.1112.RH.3.7:	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
LAFS.1112.RH.3.8:	Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
LAFS.1112.RH.3.9:	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
LAFS.1112.RH.4.10:	By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.
LAFS.1112.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
LAFS.1112.SL.1.2:	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
LAFS.1112.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
LAFS.1112.SL.2.4:	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
LAFS.1112.WHST.1.1:	Write arguments focused on *discipline-specific content.* a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
LAFS.1112.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LAFS.1112.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.1112.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LAFS.1112.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.1112.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LAFS.1112.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.1112.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**

MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.4:	Evaluate how public health policies and government regulations can influence health promotion and disease prevention. **Clarifications:** Seat-belt enforcement, underage alcohol sales, reporting communicable diseases, child care, and AED availability.

General Course Information and Notes

GENERAL NOTES

Visions and Countervisions: Europe,the U.S. and the World from 1848 - The grade 9-12 Visions and Countervisions course consists of the following content area strands: World History, American History, Geography, and Humanities. The primary content emphasis for this course pertains to the chronological study of major concepts and trends evidenced in the United States, Europe, and the world from 1848 to the present. Content should include, but is not limited to, the visions of revolution, nationalism, and imperialism evidenced in European history from 1848 to 1918, international politics from 1918 to 1945 emphasizing post-war Europe, cultural identities following nationalist and independent movements, the development and rise of communism, domestic issues affecting the United States from 1880 to the present, and the United States economic, political, and social policies and their effects on the world from 1898 to the present.

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines. Academic rigor is more than simply assigning to students a greater quantity of work.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies

Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2100480

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: VISIONS/COUNTER HON

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Honors
- Class Size Core Required

Course Type: Core Academic Course

Course Level: 3

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Graduation Requirement: United States History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Cambridge AICE International History 1 AS Level (#2100490) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2100490

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >

Abbreviated Title: AICE INTL HIST 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: World History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Equivalent Courses

2109415-Pre-Advanced Placement World History and Geography
Equivalency start year: 2018

Cambridge AICE International History 2 A Level (#2100495) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2100495

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >

Abbreviated Title: AICE INTL HIST 2 AL

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Graduation Requirement: World History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Equivalent Courses

2109415-Pre-Advanced Placement World History and Geography
Equivalency start year: 2018

Cambridge AICE United States History 1 AS Level (#2100500) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

For more information about this Cambridge course, visitcie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2100500

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: AICE U.S. HIST 1 AS

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: United States History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Cambridge AICE United States History 2 A Level (#2100505) 2014 - And Beyond (current)

General Course Information and Notes

VERSION DESCRIPTION

For more information about this Cambridge course, visit cie.org.uk/programmes-and-qualifications/cambridge-advanced/cambridge-international-as-and-a-levels/curriculum/.

GENERAL INFORMATION

Course Number: 2100505

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: AICE U.S. HIST 2 AL

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- Advanced International Certificate of Education (AICE)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Graduation Requirement: United States History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

International Baccalaureate History of the Americas (#2100800) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2100800

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** American and Western Hemispheric Histories >

Abbreviated Title: IB HISTORY OF AMER

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Core Academic Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Graduation Requirement: United States History

Educator Certifications

History (Grades 6-12)
Social Science (Grades 6-12)

Social Studies Transfer (#2100990) 2015 - 2022 (current)

General Course Information and Notes

VERSION DESCRIPTION

SUBJECT AREA TRANSFER NUMBERS

Each course transferred into a Florida public school by an out-of-state or non-public school student should be matched with a course title and number when such course provides substantially the same content. However, a few transfer courses may not be close enough in content to be matched. For those courses a subject area transfer number is provided.

GENERAL INFORMATION

Course Number: 2100990

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** World and Eastern Hemispheric Histories >
Abbreviated Title: SOC STUDIES TRAN
Course Length: Not Applicable

Course Type: Transfer Course
Course Status: Draft - Course Pending Approval
Grade Level(s): 9,10,11,12

Anthropology (#2101300) 2015 - 2022 (current)

Course Standards

Name	Description
SS.912.A.7.11:	Analyze the foreign policy of the United States as it relates to Africa, Asia, the Caribbean, Latin America, and the Middle East. **Clarifications:** Examples may include, but aren ot limited to, Haiti, Bosnia-Kosovo, Rwanda, Grenada, Camp David Accords, Iran Hostage Crisis, Lebanon, Iran-Iraq War, Reagan Doctrine, Iran-Contra Affair, Persian Gulf War. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 55-56. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.12:	Analyze political, economic, and social concerns that emerged at the end of the 20th century and into the 21st century. **Clarifications:** Examples may include, but are not limited to, AIDS, Green Revolution, outsourcing of jobs, global warming, human rights violations. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.14:	Review the role of the United States as a participant in the global economy (trade agreements, international competition, impact on American labor, environmental concerns). **Clarifications:** Examples may include, but are not limited to, NAFTA, World Trade Organization. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.15:	Analyze the effects of foreign and domestic terrorism on the American people. **Clarifications:** Examples may include, but are not limited to, Oklahoma City bombing, attack of September 11, 2001, Patriot Act, wars in Afghanistan and Iraq. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.16:	Examine changes in immigration policy and attitudes toward immigration since 1950. **Clarifications:** This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.A.7.17:	Examine key events and key people in Florida history as they relate to United States history. **Clarifications:** Examples may include, but are not limited to, selection of Central Florida as a location for Disney, growth of the citrus and cigar industries, construction of Interstates, Harry T. Moore, Pork Chop Gang, Claude Pepper, changes in the space program, use of DEET, Hurricane Andrew, the Election of 2000, migration and immigration, Sunbelt state. This benchmark is annually evaluated on the United States History End-of-Course Assessment. For more information on how this benchmark is evaluated view the United States History End-of-Course Assessment Test Item Specifications pages 47-52 and pages 57-59. Additional resources may be found on the FLDOE End-of-Course (EOC) Assessments webpage and the FLDOE Social Studies webpage.
SS.912.C.2.2:	Evaluate the importance of political participation and civic participation.
SS.912.C.2.3:	Experience the responsibilities of citizens at the local, state, or federal levels. **Clarifications:** Examples are registering or pre-registering to vote, volunteering, communicating with government officials, informing others about current issues, participating in a political campaign/mock election.
SS.912.C.2.4:	Evaluate, take, and defend positions on issues that cause the government to balance the interests of individuals with the public good.
SS.912.C.2.10:	Monitor current public issues in Florida. **Clarifications:** Examples are On-line Sunshine, media, e-mails to government officials, political text messaging.
SS.912.C.2.12:	Explain the changing roles of television, radio, press, and Internet in political communication.
SS.912.C.2.13:	Analyze various forms of political communication and evaluate for bias, factual accuracy, omission, and emotional appeal. **Clarifications:** Examples are political cartoons, propaganda, campaign advertisements, political speeches, electronic bumper stickers, blogs, media.
SS.912.C.4.1:	Explain how the world's nations are governed differently.

SS.912.C.4.2:	Evaluate the influence of American foreign policy on other nations and the influences of other nations on American policies and society.
SS.912.C.4.3:	Assess human rights policies of the United States and other countries.
SS.912.C.4.4:	Compare indicators of democratization in multiple countries.
SS.912.E.2.2:	Use a decision-making model to analyze a public policy issue affecting the student's community that incorporates defining a problem, analyzing the potential consequences, and considering the alternatives.
SS.912.E.3.5:	Compare the current United States economy with other developed and developing nations. **Clarifications:** Examples are standard of living, exchange rates, productivity, gross domestic product.
SS.912.G.1.1:	Design maps using a variety of technologies based on descriptive data to explain physical and cultural attributes of major world regions.
SS.912.G.1.2:	Use spatial perspective and appropriate geographic terms and tools, including the Six Essential Elements, as organizational schema to describe any given place.
SS.912.G.1.3:	Employ applicable units of measurement and scale to solve simple locational problems using maps and globes.
SS.912.G.1.4:	Analyze geographic information from a variety of sources including primary sources, atlases, computer, and digital sources, Geographic Information Systems (GIS), and a broad variety of maps. **Clarifications:** Examples are thematic, contour, and dot-density.
SS.912.G.2.1:	Identify the physical characteristics and the human characteristics that define and differentiate regions. **Clarifications:** Examples of physical characteristics are climate, terrain, resources. Examples of human characteristics are religion, government, economy, demography.
SS.912.G.2.2:	Describe the factors and processes that contribute to the differences between developing and developed regions of the world.
SS.912.G.2.3:	Use geographic terms and tools to analyze case studies of regional issues in different parts of the world that have critical economic, physical, or political ramifications. **Clarifications:** Examples are desertification, global warming, cataclysmic natural disasters.
SS.912.G.4.1:	Interpret population growth and other demographic data for any given place.
SS.912.G.4.2:	Use geographic terms and tools to analyze the push/pull factors contributing to human migration within and among places.
SS.912.G.4.3:	Use geographic terms and tools to analyze the effects of migration both on the place of origin and destination, including border areas.
SS.912.G.4.7:	Use geographic terms and tools to explain cultural diffusion throughout places, regions, and the world.
SS.912.G.4.9:	Use political maps to describe the change in boundaries and governments within continents over time.
SS.912.H.1.4:	Explain philosophical beliefs as they relate to works in the arts. **Clarifications:** Examples are classical architecture, protest music, Native American dance, Japanese Noh.
SS.912.H.3.1:	Analyze the effects of transportation, trade, communication, science, and technology on the preservation and diffusion of culture.
SS.912.H.3.2:	Identify social, moral, ethical, religious, and legal issues arising from technological and scientific developments, and examine their influence on works of arts within a culture.
SS.912.W.1.1:	Use timelines to establish cause and effect relationships of historical events.
SS.912.W.1.2:	Compare time measurement systems used by different cultures. **Clarifications:** Examples are Chinese, Gregorian, and Islamic calendars, dynastic periods, decade, century, era.
SS.912.W.1.3:	Interpret and evaluate primary and secondary sources. **Clarifications:** Examples are artifacts, images, auditory and written sources.
SS.912.W.1.4:	Explain how historians use historical inquiry and other sciences to understand the past. **Clarifications:** Examples are archaeology, economics, geography, forensic chemistry, political science, physics.
SS.912.W.1.5:	Compare conflicting interpretations or schools of thought about world events and individual contributions to history (historiography).
SS.912.W.1.6:	Evaluate the role of history in shaping identity and character. **Clarifications:** Examples are ethnic, cultural, personal, national, religious.
SS.912.W.3.1:	Discuss significant people and beliefs associated with Islam. **Clarifications:** Examples are the prophet Muhammad, the early caliphs, the Pillars of Islam, Islamic law, the relationship between government and religion in Islam.
SS.912.W.3.2:	Compare the major beliefs and principles of Judaism, Christianity, and Islam.
SS.912.W.6.4:	Describe the 19th and early 20th century social and political reforms and reform movements and their effects in Africa, Asia, Europe, the United States, the Caribbean, and Latin America. **Clarifications:** Examples are Meiji Reforms, abolition of slavery in the British Empire, expansion of women's rights, labor laws.
SS.912.W.8.7:	Compare post-war independence movements in African, Asian, and Caribbean countries.
SS.912.W.8.9:	Analyze the successes and failures of democratic reform movements in Africa, Asia, the Caribbean, and Latin America.
SS.912.W.8.10:	Explain the impact of religious fundamentalism in the last half of the 20th century, and identify related events and forces in the Middle East over the last several decades. **Clarifications:** Examples are Iranian Revolution, Mujahideen in Afghanistan, Persian Gulf War.

SS.912.W.9.1:	Identify major scientific figures and breakthroughs of the 20th century, and assess their impact on contemporary life. **Clarifications:** Examples are Marie Curie, Albert Einstein, Enrico Fermi, Sigmund Freud, Wright Brothers, Charles R. Drew, mass vaccination, atomic energy, transistor, microchip, space exploration, Internet, discovery of DNA, Human Genome Project.
SS.912.W.9.3:	Explain cultural, historical, and economic factors and governmental policies that created the opportunities for ethnic cleansing or genocide in Cambodia, the Balkans, Rwanda, and Darfur, and describe various governmental and non-governmental responses to them. **Clarifications:** Examples are prejudice, racism, stereotyping, economic competition.
SS.912.W.9.4:	Describe the causes and effects of twentieth century nationalist conflicts. **Clarifications:** Examples are Cyprus, Kashmir, Tibet, Northern Ireland.
SS.912.W.9.5:	Assess the social and economic impact of pandemics on a global scale, particularly within the developing and under-developed world.
SS.912.W.9.6:	Analyze the rise of regional trade blocs such as the European Union and NAFTA, and predict the impact of increased globalization in the 20th and 21st centuries.
SS.912.W.9.7:	Describe the impact of and global response to international terrorism.
LAFS.910.RH.1.1:	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
LAFS.910.RH.1.2:	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
LAFS.910.RH.1.3:	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.
LAFS.910.RH.2.4:	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.
LAFS.910.RH.2.5:	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.
LAFS.910.RH.2.6:	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
LAFS.910.RH.3.7:	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
LAFS.910.RH.3.8:	Assess the extent to which the reasoning and evidence in a text support the author's claims.
LAFS.910.RH.3.9:	Compare and contrast treatments of the same topic in several primary and secondary sources.
LAFS.910.RH.4.10:	By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.
LAFS.910.SL.1.1:	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
LAFS.910.SL.1.2:	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
LAFS.910.SL.1.3:	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
LAFS.910.SL.2.4:	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
LAFS.910.WHST.1.1:	Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.910.WHST.1.2:	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
LAFS.910.WHST.2.4:	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.910.WHST.2.5:	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
LAFS.910.WHST.2.6:	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LAFS.910.WHST.3.7:	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
LAFS.910.WHST.3.8:	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LAFS.910.WHST.3.9:	Draw evidence from informational texts to support analysis, reflection, and research.
LAFS.910.WHST.4.10:	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
MAFS.912.S-IC.2.3:	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.4:	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.5:	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-IC.2.6:	Evaluate reports based on data. ★ **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.1:	Represent data with plots on the real number line (dot plots, histograms, and box plots). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.2:	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.3:	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★ **Clarifications:** In grades 6 – 8, students describe center and spread in a data distribution. Here they choose a summary statistic appropriate to the characteristics of the data distribution, such as the shape of the distribution or the existence of extreme data points. **Standard Relation to Course: Supporting**
MAFS.912.S-ID.1.4:	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★ **Standard Relation to Course: Supporting**
MAFS.K12.MP.1.1:	**Make sense of problems and persevere in solving them.** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
MAFS.K12.MP.3.1:	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
MAFS.K12.MP.5.1:	**Use appropriate tools strategically.** Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify

	relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.
MAFS.K12.MP.6.1:	**Attend to precision.** Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.
ELD.K12.ELL.SS.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
HE.912.C.2.7:	Analyze how culture supports and challenges health beliefs, practices, and behaviors. **Clarifications:** Various cultures' dietary patterns, rites of passage, courtship practices, family roles, personal relationships, ethics, and parenting.

General Course Information and Notes

GENERAL NOTES

The grade 9-12 Anthropology course consists of the following content area strands: American History, World History, Geography, Humanities, Civics and Government. The primary content emphasis for this course pertains to the study of the differences and similarities, both biological and cultural, in human populations. Students recognize the characteristics that define their culture and gain an appreciation for the culture of others. Content should include, but is not limited to, human biological and cultural origins, adaptation to the physical environment, the diversity of human behavior, the evolution of social and cultural institutions, patterns of language development, family and kinship relationships, and the effect of change on cultural institutions.

Mathematics Benchmark Guidance - Social Studies instruction should include opportunities for students to interpret and create representations of historical events and concepts using mathematical tables, charts, and graphs.

Instructional Practices

Teaching from well-written, grade-level instructional materials enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.
2. Making close reading and rereading of texts central to lessons.
3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.
4. Requiring students to support answers with evidence from the text.
5. Providing extensive text-based research and writing opportunities (claims and evidence).

Literacy Standards in Social Studies
Secondary social studies courses include reading standards for literacy in history/social studies 6-12, and writing standards for literacy in history/social studies, science, and technical subjects 6-12. This course also includes speaking and listening standards. For a complete list of standards required for this course click on the blue tile labeled course standards. You may also download the complete course including all required standards and notes sections using the export function located at the top of this page.

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate information, ideas and concepts for academic success in the content area of Social Studies. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: cpalms.org/uploads/docs/standards/eld/SS.pdf

GENERAL INFORMATION

Course Number: 2101300

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** Anthropology > **Abbreviated Title:** ANTHROP

Number of Credits: Half credit (.5)

Course Length: Semester (S)

Course Type: Elective Course

Course Level: 2

Course Status: Draft - Course Pending Approval

Grade Level(s): 9,10,11,12

Educator Certifications

Social Science (Grades 6-12)

International Baccalaureate Social Anthropology 1 (#2101800) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2101800

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** Anthropology >

Abbreviated Title: IB SOCIAL ANTHROP 1

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Social Science (Grades 6-12)

International Baccalaureate Social Anthropology 2 (#2101810) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

GENERAL INFORMATION

Course Number: 2101810

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** Anthropology >

Abbreviated Title: IB SOCIAL ANTHROP 2

Number of Credits: One (1) credit

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Type: Elective Course

Course Level: 3

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Educator Certifications

Social Science (Grades 6-12)

International Baccalaureate Social Anthropology 3 (#2101820) 2014 - And Beyond (current)

General Course Information and Notes

GENERAL NOTES

The curriculum description for this IB course is provided at ibo.org/en/programmes/.

VERSION REQUIREMENTS

Special Notes:

Instructional Practices

Teaching from a well-written, grade-level textbook enhances students' content area knowledge and also strengthens their ability to comprehend longer, complex reading passages on any topic for any reason. Using the following instructional practices also helps student learning:

1. Reading assignments from longer text passages as well as shorter ones when text is extremely complex.

2. Making close reading and rereading of texts central to lessons.

3. Asking high-level, text-specific questions and requiring high-level, complex tasks and assignments.

4. Requiring students to support answers with evidence from the text.

5. Providing extensive text-based research and writing opportunities (claims and evidence).

GENERAL INFORMATION

Course Number: 2101820

Number of Credits: One (1) credit

Course Type: Elective Course

Course Status: Course Approved

Grade Level(s): 9,10,11,12

Course Path: Section: Grades PreK to 12 Education Courses > **Grade Group:** Grades 9 to 12 and Adult Education Courses > **Subject:** Social Studies > **SubSubject:** Anthropology >

Abbreviated Title: IB SOCIAL ANTHROP 3

Course Length: Year (Y)

Course Attributes:

- International Baccalaureate (IB)

Course Level: 3

Educator Certifications

Social Science (Grades 6-12)

Economics (#2102310) 2019 - 2022 (current)

Course Standards

Name	Description
SS.912.E.1.1:	Identify the factors of production and why they are necessary for the production of goods and services. **Clarifications:** Examples are land, labor, capital, entrepreneurship.
SS.912.E.1.2:	Analyze production possibilities curves to explain choice, scarcity, and opportunity costs.
SS.912.E.1.3:	Compare how the various economic systems (traditional, market, command, mixed) answer the questions: (1) What to produce?; (2) How to produce?; and (3) For whom to produce?
SS.912.E.1.4:	Define supply, demand, quantity supplied,and quantity demanded; graphically illustrate situations that would cause changes in each, and demonstrate how the equilibrium price of a product is determined by the interaction of supply and demand in the market place.
SS.912.E.1.5:	Compare different forms of business organizations. **Clarifications:** Examples are sole proprietorship, partnership, corporation, limited liability corporation.
SS.912.E.1.6:	Compare the basic characteristics of the four market structures (monopoly, oligopoly, monopolistic competition, pure competition).
SS.912.E.1.7:	Graph and explain how firms determine price and output through marginal cost analysis.
SS.912.E.1.8:	Explain ways firms engage in price and nonprice competition.
SS.912.E.1.9:	Describe how the earnings of workers are determined. **Clarifications:** Examples are minimum wage, the market value of the product produced, workers' productivity.
SS.912.E.1.10:	Explain the use of fiscal policy (taxation, spending) to promote price stability, full employment, and economic growth.
SS.912.E.1.11:	Explain how the Federal Reserve uses the tools of monetary policy (discount rate, reserve requirement, open market operations) to promote price stability, full employment, and economic growth.
SS.912.E.1.12:	Examine the four phases of the business cycle (peak, contraction - unemployment, trough, expansion - inflation).
SS.912.E.1.13:	Explain the basic functions and characteristics of money, and describe the composition of the money supply in the United States.
SS.912.E.1.14:	Compare credit, savings, and investment services available to the consumer from financial institutions.
SS.912.E.1.15:	Describe the risk and return profiles of various investment vehicles and the importance of diversification. **Clarifications:** Examples are savings accounts, certificates of deposit, stocks, bonds, mutual funds, Individual Retirement Accounts.
SS.912.E.1.16:	Construct a one-year budget plan for a specific career path including expenses and construction of a credit plan for purchasing a major item. **Clarifications:** Examples of a career path are university student, trade school student, food service employee, retail employee, laborer, armed forces enlisted personnel. Examples of a budget plan are housing expenses, furnishing, utilities, food costs, transportation, and personal expenses - medical, clothing, grooming, entertainment and recreation, and gifts and contributions. Examples of a credit plan are interest rates, credit scores, payment plan.
SS.912.E.2.1:	Identify and explain broad economic goals. **Clarifications:** Examples are freedom, efficiency, equity, security, growth, price stability, full employment.
SS.912.E.2.2:	Use a decision-making model to analyze a public policy issue affecting the student's community that incorporates defining a problem, analyzing the potential consequences, and considering the alternatives.
SS.912.E.2.3:	Research contributions of entrepreneurs, inventors, and other key individuals from various gender, social, and ethnic backgrounds in the development of the United States.
SS.912.E.2.4:	Diagram and explain the problems that occur when government institutes wage and price controls, and explain the rationale for these controls. **Clarifications:** Examples are shortage, surplus, other inefficiencies.
SS.912.E.2.5:	Analyze how capital investments may impact productivity and economic growth. **Clarifications:** Examples are factories, machinery, technology, people.
SS.912.E.2.6:	Examine the benefits of natural monopolies and the purposes of government regulation of these monopolies. **Clarifications:** Examples are electric, water, cable, waste management.
SS.912.E.2.7:	Identify the impact of inflation on society.
SS.912.E.2.8:	Differentiate between direct and indirect taxes, and describe the progressivity of taxes (progressive, proportional, regressive). **Clarifications:** Examples are income, sales, social security.
SS.912.E.2.9:	Analyze how changes in federal spending and taxation affect budget deficits and surpluses and the national debt.
SS.912.E.2.10:	Describe the organization and functions of the Federal Reserve System.
	Assess the economic impact of negative and positive externalities on the local, state, and national environment.